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ABSTRACT

Fourteen original research papers by faculty and students of the Linguistics Department and other related departments of the University of Kansas are presented. The titles and authors are as follows: "A Kinesic Approach to Understanding Communication and Context in Japanese" (Bruch); "Correlations between the Three Level Tones and Vowel Durations in Standard Thai" (Deepadung); "On Predicting the Glottal Stop in Hualapai" (Folarin); "Prefix "oni" in Yoruba" (Folarin); "The Study of Minority Languages in China" (He); "Lexical, Functional Grammar Analysis of Korean Complex Predicates" (Kim); "In the Social Register: Pronoun Choice in Norwegian and English" (Mills); "Diphthongization, Syllable Structure and the Feature high in Hmu" (Mills, Strecker); "A Transitional Orthography for Northern Canadian Native Languages" (Proulx); "A Relic of Proto-Siouan *ro/no 'One' in Mississippi Valley Siouan" (Rankin); "Making Sense in ESL: A Set of Three Rhetorical Structures" (Scott); "The Path Containment Condition and Argument Structure" (Stroik); "Social Deixis in Sinhalese: The Pronoun System" (Tilakaratne); and "The Behavior of Non-Terms in Shaba Swahili: A Relational Approach" (Obeidat, Kapanga). (LB)

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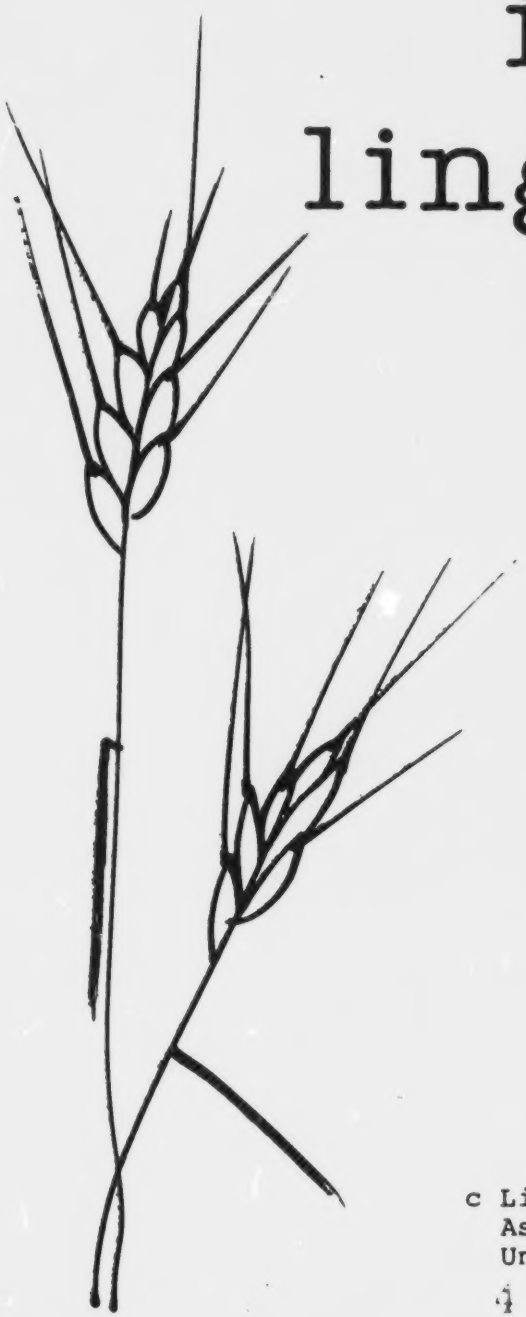

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A KINESIC APPROACH TO UNDERSTANDING COMMUNICATION AND CONTEXT IN JAPANESE

Julie Bruch

ABSTRACT: The successful decoding of a linguistic message requires knowledge of a particular grammar, but it is becoming increasingly clear that contextual and cultural cues also play an important role in understanding utterances in conversation. In Japanese, conversation proceeds smoothly and acquires some of its meaningfulness due to the use of gestural signals, namely head nodding. This paper discusses how head nodding operates in Japanese and interprets its use as it relates to the Cooperative Principle of Grice and as an indicator of cultural values.

Until recently, the phenomena of paralinguistics and kinesics have been considered as somewhat peripheral to linguistics but have now gained a significant place in the literature. As the field of linguistics has become increasingly more open to other disciplines such as psychology or anthropology for more complete and accurate descriptions of language, it has been made more and more obvious that language simply cannot be explained without recourse to contextual factors (on a local level) and cultural factors (at a more global level). Gestures, proximity, or the use of certain voice qualities at times are necessary input for the correct decoding of an utterance. They help to make up the totality of meaning found in the purely linguistic realization of interaction. As Birdwhistell (1970:127) explains:

> . . . linguistics and kinesics are infracommunicational systems. Only in their interrelationship with each other and with comparable systems from other sensory modalities are the emergent communication systems achieved.

Although the Japanese do not use their hands or facial expressions to the extent found in some other cultures, movement of the head is a notable feature of communication, and particularly of conversational interaction in Japanese. This gestural feature, in fact,

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follows some general rules and can be characterized as to certain of its interpretive qualities. As in English, nods of the head in Japanese can be used to signify agreement or disagreement and acknowledgment of reception by the hearer of a message. It also seems to be important in a number of other ways. First, it might be helpful to discuss the quality of Japanese interaction and some cultural values which influence the form of conversations.

Some general politeness strategies which function in conversation (as mentioned by McGloin 1983:127) are that the participants in a conversation attempt to use formality, deference, and camaraderie. These three strategies, as a matter of fact, fit rather well with the stereotypical view of the Japanese. Japanese people do indeed value formality and reservedness to a high degree. The use of these types of politeness strategies in conversation tends to prevent conflict or discord among the participants. As a study by Barnlund (1975:450) pointed out, "Preserving harmony appears to be a cardinal virtue within Japanese society." This is echoed by Hinds (1983) who claims that conversational harmony is of greater importance to the Japanese than to Americans. They have many techniques to achieve this harmony. Voice quality is a highly formalized technique, especially among females (the high pitched voice used on the telephone and by store clerks to show respectful formality being points in question). There is also a large amount of the use of alternate verb endings which show in-group membership (as in sentence 1) and of the confirmatory tag particles which soften assertions (sentences 1 and 2).

(1) Sono hon wa omoshiroi deshoo ne.
that book TM interesting (conjecture) I presume,
(confirmatory particle)
"That's an interesting book, isn't it."

(2) Soo desu ne.
thus it is I presume (confirmatory particle)
"Yes, I agree."

There is also the well-known honorific system which includes terms of address, respect prefixes, polite prefixes and verb forms. This system is used most effectively as formality and deference strategies. Other conversation strategies exist which are more situation oriented in nature. They have to do with speaker intent and the general goals of conversation. Barnlund (1975:431) characterizes Japanese interaction as being more selective, more ritualized, more superficial, less intimate, and more defensive (a common defense being passive withdrawal) than it is in English. He sums up Japanese conversational style thus (p. 450):

> Conversation proceeds not by negation or contradiction as in the West, but by affirmation where the speaker seeks continual confirmation and approval from the listener. Talk becomes a means of seeking areas of concensus rather than a process of identifying differences.

One major difference between the attitude of participants in Japanese conversation and the attitude of interactants in English toward the interaction is clear then; Japanese take more caution to insure that talk does not become impolite or uncomfortable in any way.

Additional harmony guarding devices are mentioned by Hinds (1983): general tendencies to avoid refusing or negating directly, repetition by a hearer of the speaker s words (to increase camaraderie), and the speaker accommodating himself to the hearer's needs. Hinds goes on to explain that when there is a conversational politeness violation, another harmony maintaining device is used to repair the situation. The device consists of a shift to a higher politeness level in the conversation that includes more polite speech and more nonverbal behavior. Thus, politeness or harmony in speech is maintained. We will show how head movement fits this schema and what other additional features it might reveal about Japanese interactions.

We can observe several types of head movement in Japanese, each of which carries different functional loads. Head movements differ in their direction, force, speed, distance, interval, and number of repetitions, and these variations play a role in conveying the meaning of the kinesic signals which contribute to the flow of conversation. Whether or not there is accompanying eye gaze or smile can also influence the message that is conveyed. In some cases speaker and hearer nod simultaneously at regular intervals showing what we can presume to be a type of "illocutionary uptake" (Levinson 1983:260) on the part of the hearer, signifying that the speaker has been heard, understood, and possibly agreed with. The notion of uptake is important in influencing the form and flow of the succeeding conversation, especially in light of the special need for confirmation and approval mentioned earlier.

Since my obversations did not involve the use of equipment which would show exact timing, force, or direction of nods in limited segments of conversation, but rather are the result of viewing and transcribing large portions of interaction in an attempt to observe approximately where head movement was placed, the characterization of head nodding in Japanese given here will be tentative in nature. Nevertheless, it may point out some of the general tendencies in a broad way and

provide some possible explanations of gesture occurrence in Japanese verbal communication. Observationally, it is often difficult to distinguish random or purely physically motivated head movement from that used intentionally as part of discourse meaning. However, I will attempt to roughly describe some main types of head movement and how and when they occur.

The types of conversation viewed were varied. Situation, gender, and age were each considered as potentially affecting the gestural realm of language as they do the linguistic realm. All conversations were seen on videotaped television programs because of the necessity of being able to record and examine information by repeated observation. Types of communicative events observed were: interviews, news broadcasts, comedy acts, women explaining how to cook, a speech by the prime minister, game shows, and dramas about families.

First, social factors are related to head nodding (referred to hereforth as HN). In general, the greater the formality of a particular setting, the more HN occurs. Discussion between close friends, or among family members involves relatively little, whereas a conversation between two newly introduced strangers has much more. Formality and a consequent increase in HN may be even more notable if, for example in family conversation the audience includes a non-intimate acquaintance, e.g., a mother-in-law, or someone such as the husband's boss.

A person of lower social status or younger age speaking with someone of higher status or older age will use more HN both in the role of speaker and hearer within the intercourse. This ties in closely with situational formality since the formality level is partially determined by the relative statuses of the participants. Because women are often in roles of lower status, HN is predominant among them, but sex of itself does not seem to have much bearing. A male worker was seen to use HN more than his female boss.

Age may also have a part in the frequency and type of HN employed. Two older people of the same status in a formal situation use more polite forms and HN than two young people of the same status in the same setting. This may be a reflection of the gradual tendency towards the more and more infrequent use of grammatical forms of polite speech among young people.

Stylized speech such as news broadcasts or public speeches have very little or very controlled HN, as might be predicted from the fact that these are more prepared forms of speaking with little or no hearer uptake or interaction. In short, then, situational context determines the amount and type of HN, stylized speech

requiring very little regardless of the other factors, age and status requiring varying amounts, and formality of a setting being the most important aspect of when and how HN occurs.

Second, various types of speech acts are related to the use of HN. Explaining, persuading, listing, comforting, arguing, reporting something that is written, emphasizing, requesting, and apologizing were all seen to contain more accompanying HN than, for example, congratulating or commanding. And on the part of the listener, agreeing, understanding, confirming, or encouraging may be the illocutionary intent of response tokens such as: "aa soo desu ka" (oh, is that so?), "hai" (yes), "mmm" (oh, really?) which are employed simultaneously with HN. These back channel expressions are quite acceptable even in overlapped speech (Hinds, 1982:322). Of course all this is in conjunction with the social factors mentioned above, but those types of speech acts which require humility such as requesting or apologizing, those which require soft speech such as comforting or persuading, those which require extra emphasis as in an argument, and finally those which make use of extra clarification techniques such as explaining and reading aloud employ various types of movement. As mentioned earlier, hearer agreement or understanding are also signalled by HN, sometimes as voluntary participation in the conversation, as occurs in overlap, and sometimes as the perlocutionary effect of a subtle speaker request for back channel information. Herlofsky (1985) states that a speaker can "request" listener gaze (and presumably other responses) by hesitations, repetitions, or phrasal breaks. At times, the type of speech act being participated in overrides the demands on HN triggered by the social factors. One example was a dyadic conversation in which a middle-aged male teacher was explaining a lesson to his young female student. According to the context, the student should have used more HN since she was in the lower social position as well as younger than the teacher. But it was observed that the teacher himself engaged in HN quite often. This could have been due to the fact that he was trying to explain the subject as clearly as possible to the girl and using HN to reinforce and make obvious certain phrase groups and words within his discourse.

The types of HN employed for different speech acts have different physical realizations which will be discussed later, but since they are somewhat distinguishable at the physical level and carry distinct meaningful characteristics, Birdwhistell (1970:99-101) has termed these types of kinesic behaviors as "kinemes, allokines, and kinemorphs." The appropriateness of this terminology will not be discussed here, but it is interesting to note the analogy with phonemes, morphemes,

and allophones or allomorphs and to find the recognition that certain movements can be qualified as carriers of discrete meaningful units.

Third, syntactically a pattern of HN can be found. HN may occur, but is not obligatory at the end of any kind of phrase, and this necessarily entails at the end of clauses and utterances. This HN may serve either as a grammatical phrase boundary marker, helping to elucidate the syntactic relations between groups of words, or it may be a form of listener response elicitation, which would coincide with Herlofsky's statement that speech is interrupted at phrasal boundaries to "request" listener gaze. Phrases seem to be salient constituent units in Japanese, as is shown in the phrase final lengthening and pauses that signal important boundaries. This is particularly noticeable in the oral reading of some types of written language or the phrase length rhythm of speech when there is any kind of interference, e.g., speaking over a faulty telephone connection, giving directions that may be difficult to understand, etc. In addition to phrasal marking, HN occurs with listing. Serial verbs or verb forms which indicate more information to come quite often incur HN. In the following example, taken from a video taped interview, points at which HN occurred are underlined.

"Jibun o migaite$_1$ koo kodomo to otto to katei to de sore
self OM polish thus children & husb & family & by then

kara shigoto to de ano soo yuu$_2$mono de motte$_3$ umarete$_4$
work & by uh like that things by have born

kurooshite$_5$sukoshi zutsu nanka ningen ga$_6$dekite$_7$ite$_8$
suffer little each some kind human SM emerge

ne"$_9$
you know?

Roughly translated, the passage says, "You polish yourself up, then, there are, like, children, a husband, a household, and then your job, uh, you have these kinds of things, you are born with them, you suffer, and little by little you can become a real person, you know?" The first, fourth and fifth instances of HN in this example show the speaker's train of thought and list the main verbs which are used to develop her idea (polish, be borr with, suffer). Numbers three, seven and eight are serial verbs, so HN could have occurred on those words as well, but it was suspended until the following verbs (4 and 5) or the final confirmatory particle (9). The sixth instance of HN shows a phrasal boundary, the end of a noun phrase which precedes the final verb. This NP is probably the part of the utterance in which the sentence culminates in its focal

point, so the HN is to be expected there. The ninth HN is either a response elicitation, a sentence boundary marker or perhaps both.

Other forms observed to generate HN are: "sore zya nakute" (it's not that . . .), "dete ittari asondari" (you go out and have fun and . . .), "to yuu koto de" (by (doing) things like that . .), "nakattara" (if it isn't, . . .) --HN is more sideways than vertical for this word, "wakaru to" (once you understand . . . .). They are all verb phrases which intimate that something additional will follow. The movement of the head occurs either on the phrase final particle or on the final morpheme of the verbs.

Semantically, there is a connection between HN and word meaning but it has less mandatory application than when the previously discussed factors of social context and speech act operate to engender gesture. Nevertheless, it is prevalent when the conditions are right. The connection consists in the fact that much in the same way as certain words are said to have negative polarity, we may claim that certain words are natural attractors of concomitant HN or have a polarity for HN. Many of the intensifiers, words of agreeing, adjectives of judgment, (quantity or quality), negatives, or words that are used to list are included in this class. These kinds of words might naturally incur HN for reasons of emphasis. This is further evidenced by the fact that they may be said to be stress-prone. They are frequently lengthened (intervocalic nasals held longer or inherently geminate consonants are further lengthened), and voice quality often changes on the vowel portions. For example, "zenzen" often becomes "zennnzen" and "kibishii" may be pronounced as "kibishiiii" with creaky voice on the vowel. It is possible for HN to occur with these words even in positions where syntactically we would not expect to find it (in other words, in mid-phrase rather than phrase boundary positions) because of the meaning prominence involved. Examples of words which may often be accompanied by HN because of their meaning qualities are given below.

zenzen (not at all)	hontoo (really)
anmari (not very)	hakkiri (precisely)
zannen (too bad)	komatta (got worried)
kibishii (strict)	taihen (very)
tottemo (very)	shizuka ni (quietly)
chanto (as is right)	dame (that's bad)
daijoobu (alright)	yappari (as expected)
mochiron (of course)	

The above observation leads us to another factor which is that HN seems to co-occur naturally with certain prosodic aspects of the language. When laryngeal voice,

lengthening, or pitch are used for stressing a word, HN is often present to reinforce the prosodic emphasis. Hadar et al., in a 1983 study, found that there are "kinesic suprasegmentals" which relate to rhythm, juncture, and stress. They claim that the somatic movements that accompany speech are a type of coordinative structure, helping to "establish the target prosodic feature" (p. 128). But they also found the physical movements to be "dissipative structures" which are used when the articulatory system cannot efficiently handle high energy levels, thus stating that "body movement dominates over speech sounds in applying high intensities" (p. 127). Their study looked specifically at speech related head movement, and although it was done for English, they suggest that this may be a tendency of a universal nature. At least for Japanese, it seems to hold. HN can occur not only with stress but also follows intcnational contours over the length of a clause, as in "ue no ko ni kiitara" (when I asked my oldest child) where the head began upward movement after the word "ko" and finished downward movement after the final word. In addition, non-final as well as final juncture in Japanese is often expressed by timing, pitch, and HN. Of course, more precise measurements would be necessary to prove this claim, but observationally it seems to be the case.

In sum, there are several situational as well as linguistic factors which influence the type, placement, and extent of HN in conversation. Some of them may work together to form the total meaning force exerted by the movement. They are broad categories which are presented without any suggestions as to specific rules, but they show at least in a general way some of the motivations for HN in Japanese. They are summarized below.

Participant Context	Context of Setting	Speaker Intention	Semantic	Discourse Junctures	Prosodic
status, age, level of intimacy	level of formality	humility, empathy (softness), emphasis, redundancy	negating, intensi- fying, qualify- ing	phrase boundaries	stress, junc- ture, intona- tional contour

Factors Influencing Head Nodding in Japanese Speech

USES

It seems clear that there are at least five principal uses of HN that interweave with the situational and linguistic influences discussed above to form part of the meaning of Japanese utterances. These uses are: emphasizing, forming a part of polite speech, clarifying grammatical boundaries, showing listener uptake, and signaling turn-taking. To show emphasis, the application of HN to an already vocally stressed pattern may bring a more precise communicative effect, as in "shizukaa ni" (quietly) where the normal form "shizuka ni" is given extra length, and stress prominence (intensity, pitch, creaky voice). The intensity dissipation view held by Hadar et al. would support this observation as would intuitive feeling.

Politeness, in light of the cultural values held by the Japanese, is a highly salient feature of interactions in general, and HN is one way to express politeness. In some cases, it may consist of a type of conversational bowing. In the openings of what are to be brief but formal conversations, it is not rare to see bowing which gradually decreases in degree in the course of the short exchange but continues in the form of nearly synchronic HN and then becomes full-fledged bowing once again when closure is near. In fact, in the event that other factors such as emphasis or grammatical clarification are not present, the level of politeness being used between two speakers can be calculated quite accurately simply from the kinesic clues without reference to the form and content of the message. In other situations, it is a form of politeness connected to displaying listener attentiveness or concord between the participants and an attempt on the part of the speaker to discover approval in the listener and continuing interactional harmony.

As a clarification technique, HN was used in contexts such as the following: the reading aloud of a letter, explaining when the relation of subject and object is not clear, dictating information for someone else to write, or when there is interference in the communication channel, e.g., background noise or speaking to foreigners or small children who do not understand well. Because of some of the linguistic characteristics of the Japanese language such as the lack of overt subjects in many sentences, as in "shiawase desu" (unspecified subject is happy), the degree of reliance on adverbs or context rather than tense markers to specify exact time frames, as in "ie ne tsuku made akachan wa moo gojikan neta koto ni naru deshoo" (By the time unspecified subject gets to the house the baby will probably have been sleeping for five hours), and possibly the large number of homonyms such as "kaeru" (frog, change, go back, hatch) put heavy requirements on the speaker as far as making the intended meaning explicit, particularly

when there are added contextual factors (such as being in a noisy room) which obscure the communication process. Thus, paralinguistic and extralinguistic activities are employed and function in the important role of clarifying the linguistic act. In addition, they convey other information, such as emotional state or physical features of the participants. In this sense, intonation and gestures, especially HN, are requisite for ease in understanding.

The fourth way in which HN is used is to show listener uptake in a conversation. This is similar to the way the listener assures the speaker of continued participation in the communicative event in English, but the placement of HN in Japanese conversation differs considerably from that of English. In Japanese, listener HN occurs more frequently, many times at or close to phrase boundaries and often accompanied by verbal responses (such as "hai, hee, mmm, a soo desu ka, hoo, nee"). These response tokens are often pronounced in overlapped speech (one of the most noticeable differences from English listener uptake). Eye gaze does not have to come from the speaker in order to elicit listener HN. It is present regardless. In its employment as an uptake signal, HN is still closely interrelated with the degree of formality and its occurrence is interspersed according to syntactic units. Other signals may carry similar force in various contexts. Eye gaze or other gestures or facial expressions may be a similar correlate.

Within the domain of discourse analysis, or more appropriately, conversational analysis, turn-taking has HN as one of its signals. Since HN occurs at or near phrase boundaries (clause and sentence boundaries), it acts as an important clue to grammatical as well as discourse units. Hinds (1982) analyzes Japanese conversation as occurring in possible adjacency triplets (rather than the adjacency pairs typically observed in English). He describes the triplet as consisting of a question (or remark), an answer (or reply), and acknowledgment in the form of a confirmation, restatement, or clarification. The great number of back channel expressions which crop up give credence to this idea. Within this frame, turn-taking becomes a complicated business which is regulated by a combination of factors. At the beginning of a turn, there is a tendency toward gaze avoidance by the speaker (Herlcfsky, 1985). The end of a turn is signalled by "grammatical closure, and to accompany this closure . . . one of two types of nonverbal cue: eye contact or head nodding" (Hinds, 1982:322). Of the two, eye contact has less formality and may simply be used with a drop in pitch which signifies final intonation. HN typically accompanies the signal of politeness forms such as the utterance final verb ending "-masu" or the polite copula "desu" which show closure for a turn. This use of gestural signals of turn-

taking is in agreement with findings from observations of English turn-taking. Certain kinesic signals increase near the ends of utterances and together with verbal and intonational signals are important cues for smooth turn-taking in English (Ellis and Beattie, 1986:191). These types of gestural "regulators" (Ellis and Beattie, 1986:39) can convey the desire of the listener for the speaker to continue, repeat, or elaborate an idea, and the hope of the speaker that he has been listened to and understood, and his desire to turn over the floor. Visual turn-taking cues are qualified as being "obligatory in their operation and possessing universal significance" (p. 182).

As for the physical realizations of movement, the more polite the situation is, the greater the frequency of HN, and also the greater the distance of movement becomes. HN oriented toward clarifying syntactic units generally is made up of small downward nods at phrase boundaries and larger nods at clause termination. End of turn HN is commonly a large movement or multiple movements and often accompanied with a smile. Sometimes with the act of explaining something in a very clear way, a forward pushing HN is exhibited. If the speaker is not too convinced of the accuracy of what is being said, or if listener agreement is dubious, the HN will be in a more diagonal direction. Often, the movement is only downward and the head remains lowered until just prior to the next nod, when it is brought up and then down. The upward motion may begin prior to the nod and continue until the occurrence of an expression which triggers the downward motion: "sono hoo ga ii" (that way is better), or "to omo n desu" (I believe so). With the response elicitation particles ("ne, na, ka"), HN is often in an upward direction as is the intonation. With the utterance final polite verb "deshita," two small nods were seen to be present.

Finally, how does a description of gestural workings such as those described above apply to the better understanding of linguistic behavior? Nonverbal behavior such as head nodding in Japanese has been classed as primarily useful in negotiating attitudinal interaction, leaving the task of imparting information to the verbal channel (Beattie mentions and refutes this idea, 1981:1165). It is more accurate to state that both forms of communication rely on each other and complement each other in the conveyance of complete and accurate messages.

As it relates to the discussion of the Japanese conversational values of harmony and avoidance of any awkwardness or contention, the cooperative principle of speech interaction is interesting. Grice's four maxims of cooperative conversation (as discussed in Levinson, 1983:101), which consist of the rules presumed by participants to be operating at some level of the

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conversation, are well known as being a kind of pragmatic basis upon which interaction is founded and able to proceed. We know that in Japanese relative social status is encoded grammatically and semantically in the language, and it has been found here that it is also encoded gesturally to a very strong degree. So such aspects as politeness and its relation to HN or other aspects might be reviewed in light of the maxims to see if they function in Japanese similar to the way they are described as operating for English.

As for the maxim of quality, speaker HN seems to fit appropriately into the expected use as a contribution to the conversation. Listener HN, however, must be interpreted differently for Japanese than it is in English, since it occurs more often and with the intent not of conveying agreement, but rather, of showing that the listener is perceiving. The quantity maxim also seems to function slightly differently. Japanese HN shows the use of a very high degree of redundancy to reinforce grammatical or social meanings of utterances. The relevancy requirement also needs cultural reinterpretation. In English, if the listener HN occurs at irrelevant moments, it can signal boredom or other negative attitudes. Japanese listener HN seems to be relevant at many more parts of a conversation. Perhaps the maxim that may be deemed as having greatest importance in Japanese conversation in general is that of manner. How something is said is as important as and in some situations more important than what is said. In bowing, who bows the lowest or the longest is closely related to social status and if the expected bowing procedure is violated, the interaction will possibly become uncomfortable. Similarly, with HN, if it is absent when socially necessary or if it is misused, a conversation might be prematurely terminated or inadvertently be wrongly interpreted. It is difficult to imagine Japanese conversation without HN in all of its functions. It is an essential factor in satisfying the manner requirements. As given by Grice, the maxim of manner requires that we "be perspicuous" and suggests that this is achieved by being brief and orderly and by avoiding obscurity and ambiguity. A study of Japanese conversational tendencies would likely reveal that some of these suggestions need to be replaced with others. Indeed, "obscurity and ambiguity" as means of attaining the desired superficiality and non-intimacy (appropriate in formal situations) discussed earlier seem to be key components of polite Japanese interaction. For Japanese HN, in addition to a revision of the requirements of the manner maxim, it might be accurate to attach a politeness requirement or even add a separate politeness principle. The principle would advise that the speaker show deference linguistically and gesturally where appropriate and that the speaker should give ample opportunities for the listener to

participate in the conversation (either turn-taking or expressing agreement, disagreement, understanding, or lack of understanding). For listener HN, the contribution to the conversation probably follows a manner maxim which suggests being receptive and acknowledging reception. That HN can be examined in light of the maxims is not surprising because it can be flouted just as any of the verbal strategies can and carries so much social and discourse level information that it has many similarities with verbal communication.

It is interesting to see the cultural values reflected in an area of behavior so closely linked to language. We are beginning more and more to see how useful extralinguistic input can be in determining the linguistic import of conversation. This is true for each language in its own right, and the operations of various modalities in different languages can be compared to find what tendencies are indeed universal and which are language and culture bound.

APPENDIX
TRANSCRIPTIONS OF SOME JAPANESE CONVERSATIONS

Key: HN is signified by an underline. Timing is not accurate; the following is an approximation. The five uses are labelled as: E (emphasis), P (politeness), C (clarification), L (listener uptake), and T (transition relevance place for turn-taking).

I. A middle-aged woman politely expressing an opinion.

yappari shigoto $_{C}$o shiyoo$_{E}$to omoeba kanarazu$_{E}$nani$_{E}$ka dekiru$_{E}$ no de ne$_{P(T)}$ ano watashi wa ano tada$_{E}$ tsuma ni nattari ne haha oya ni naru koto . . . C(P)

("Likewise, if you decide to get a job, there has got to be something you can do, you know? Uh, as for me, uh, I only became a wife, and then a mother . . .")

II. A younger woman expressing an opinion less formally.

oya ga shigoto shite iru$_{C}$to sabishii deshoo$_{E}$ni ne$_{E(T/P)}$sugoku kurushii koto da to omo n desu ne$_{E(T/P)}$tatoeba no hanashi, ano haha oya nari$_{C}$ maa chichi oya mo$_{C}$ dotchi demo$_{E}$ ga uchi ni kaeranakattari shitchau$_{E}$to dame$_{E}$da na to omotchau kara . .

("If the parents are working, (the children) are lonely, you know? I think it's extremely hard on them, you know? As an example, uh, if the mother, well, or father, either one, can't be at home with them, I think it's bad . . .")

III. A middle-aged woman very politely expressing an opinion.

jibun o migaite$_{C}$ koo kodomo to otto to katei to de sore kara shigoto to de ano soo yuu$_{E}$ mono de motte umarete kurooshite$_{C}$ sukoshi zutsu nanka ningen ga$_{C}$ dekite ite ne$_{P(T)}$ C

("You polish yourself up, then, there are, like, children, a husband, a household, and then your job, uh, you have these kinds of things; you are born with them, you suffer, and little by little, you can become a real person, you know?")

IV. A mother reading a letter aloud to her family.

okuni no tame$_{C}$ ni sasageru koto $_{C}$wa danshi no honkai de$_{C}$ arimasu ga$_{C}$ imada$_{C}$ haha ue ni kooyoo no tsukushi zaran koto omou to$_{C}$ harawata no$_{C}$ chigireru omoi ga itashimasu$_{T(P)}$

("To devote oneself to one's country is the highest calling of a man. When I think that I still haven't repaid my mother for all her kindnesses, it tears me up inside.")

V. A wife giving directions to her husband.

tabakoyasan sitte iru no T (husband--eee?)
koko kara da to ne T shinjuku yuki no densha notte C
shimokitazawa de orite eki kara go roppun no hinode E sootte
apaato yo T

("Do you know the tobacconists? If I say it from here, you get on the train bound for Shinjuku, get off at Shimokitazawa. From the station, it's five or six minutes to Hinode Sootte Apartments.")

VI. A formal interview. Interviewer is a woman dressed in kimono. Interviewee is an older man also dressed in kimono. The man is speaking with back-channeling from the woman.

kono e no naka no kyoodai C . . moo hitori dashitchattan L desu
(listener) hai
kedo sono kata ga sensoo P de nakunattan P dakedo L . . . minna
P(C) L(PT) (listener) aaa L
ano ne kokoro no naka wa naka naka E shikkari L tsuyokatta to
P omoo kedomo
(listener) neee L

("Of the family members in this picture, there was one more who they let go to the war, but that person was killed there . . . everyone, uh, you know? I think it made a very very strong impression on them.")

BIBLIOGRAPHY

Barnlund, Dean C. (1975). "Communicative Style in Two Cultures: Japan and the United States." in Organization of Behavior in Face-to-Face Interaction. (eds.) Adam Kendon, Richard M. Harris, Mary Ritchie Key. Mouton Publishers: The Hague, Paris. (427-456).

Beattie, Geoffrey W. (1981). "Language and Nonverbal Communication -- the Essential Synthesis?" Linguistics. Vol. 19 (11/12). (1165-1183).

Birdwhistell, Ray L. (1970). Kinesics and Context. University of Philadelphia Press: Philadelphia.

Ellis, Andrew and Geoffrey Beattie. (1986). The Psychology of Language and Communication. The Guilford Press.

Hadar, U., T. J. Steiner, E. C. Grant, and F. Clifford Rose. (1983). "Head Movement Correlates of Juncture and Stress at Sentence Level." Language and Speech. Vol. 26 (2). (117-129).

Herlofsky, William J. (1985). "Gaze as a Regulator in Japanese Conversation." Papers in Japanese Linguistics. Vol. 10. (16-33).

Hinds, John. (1983). "Intrusion in Japanese Conversation." Papers in Linguistics. Vol. 16 (1/2). (1-33).

_____. (1982). "Japanese Conversational Structures." Lingua. Vol. 57 (2-4). (301-326).

Levinson, Stephen C. (1983). Pragmatics. Cambridge University Press.

McGloin, Naomi Hanaoka. (1983). "Some Politeness Strategies in Japanese." Papers in Linguistics. Vol. 16 (1/2). (127-145).

Poyatos, Fernando. (1983). "Language and Nonverbal Systems in the Structure of Face-to-Face Interaction." Language and Communication. Vol. 3 (2). (129-140).

CORRELATIONS BETWEEN THE THREE LEVEL TONES AND VOWEL DURATIONS IN STANDARD THAI

Sujaritlak Deepadung

Abstract: The purpose of this study is to investigate the correlation between individual level tones and vowel duration in Standard Thai. Gandour (1977:60) states that the pitch value of the three relatively level tones in Thai is negatively correlated with vowel duration, but Roberson (1982: 136) refutes this hypothesis. The result of this study agrees with Roberson, i.e., there is no correlation of the three level tones or vocalic nuclei and corresponding vowel duration values in Standard Thai.

Introduction

Background

The language studied in this paper is Standard Thai. In general, "Siamese" is remembered only by people over 50. Standard Thai is the national language of Thailand and the dialect spoken in the central region, including the capital of Bangkok. There are other Thai dialects in the rest of the country, but Standard Thai is used in educational, official, and business activities.

Scope of the Study

The purpose of this study is to investigate the correlation between individual level tones and vowel duration in Standard Thai. It is carried out as further research of what Roberson (1982:vi) stated:

> Contrary to what Gandour (1974a) suggested, this study did not find pitch values for the three relatively level tones to be negatively correlated with vowel duration; it is suggested that future research be directed towards individual level tones and vowel duration.

In Roberson's Abstract (1982:vi) he refers to Gandour's article (1974a), named "Consonant Types and Tones in Siamese" published in UCLA Working Papers in Phonetics, No. 27, and in Journal of Phonetics, No. 2, 1974. The original suggestion is, in fact, found in Gandour's article in 1977, "On the Interaction between Tone and Vowel Length: Evidence from

Kansas Working Papers in Linguistics. Vol. 13, 1988. pp. 17-31.

Thai Dialects" published in Phonetica, No. 34, 1977 (Roberson 1982:11).

Gandour (1977:60) stated,

> Other factors being equal, (a) vowels (syllables) on low tones are longer than those on high tones; (b) vowels (syllables) on rising tones are longer than those on falling tones, and (c) vowel (syllable) duration is inversely related to the approximate average fundamental frequency.

In his article, Gandour based his study on subjective findings using several Thai dialects, not on systematic data designs for the Standard Thai language or on any acoustic experiments. As Gandour mentioned,

> The available auditory and acoustic data in the linguistic literature concerning the influence of tones on the duration of tone-bearing units indicate that the duration of a vowel (or syllable) is differentially affected by the shape of the tone. (p. 60)

In the present study, I begin with a description of tones and vowel durations in Standard Thai. Then the procedure and results are presented. Discussion and further research are in the last section.

Transcription

The following charts include all symbols used in transcribing the data in this study.

Consonants

	Bilabial	Labio-dental	Dental	Palatal	Velar	Glottal
Stops						
vd unasp.	b		d			
vl. unasp.	p		t	c	k	?
vl. asp	ph		th	ch	kh	
Fricatives						
vl.		f	s			h
Nasals	m		n		ŋ	
Liquids			r, l			
Semi-Vowels	w			y		

Only the following consonants occur as final consonants:

-p	-m	-?
-t	-n	-w
-k	-ŋ	-y

Vowels

	Front	Central	Back
High	i, ii	ɨ, ɨɨ	u, uu
Mid	e, ee	ɤ, ɤɤ	o, oo
Low	ɛ, ɛɛ	a, aa	ɔ, ɔɔ

Short vowels are written with one symbol, and their long counterparts are written with the same but double symbols. There are three diphthongs in the language.

Diphthongs

The three diphthongs in Thai are [ia, ɨa, ua].

Tones

There are the following five tones in Standard Thai:

Mid	unmarked
Low	ˋ
Falling	ˆ
High	ˊ
Rising	ˇ

Tones in Standard Thai

Standard Thai is usually analyzed as having the five contrastive tones of mid, low, falling, high, and rising. Tone is a property of the voiced segments of the syllable, and since the native Thai vocabulary is monosyllabic, tones can be referred to as lexical tones. Thai also has polysyllabic words derived from a compounding process.

The five tones can be divided into two groups, the dynamic tones and the static tones (Abramson 1962). Dynamic tones are characterized by the rather sharp downward F_o movement of the falling tone and upward F_o movement of the rising tone. The static tones are characterized by the relatively smooth F_o configuration. According to Abramson 1978 (126-7):

> We may conclude that fundamental-frequency levels do carry much information on the static tones, although they improve with movement. For the dynamic tones, as exemplified here by the rising tone, a rather abrupt movement is required. . . . Although the dichotomy between static and dynamic tones is imprecise and unstable, more so in production (Abramson, 1975) than perception, it is still useful as a rough classification of tone production and as an index to the types of acoustic cues used in recognition of tones.

Spectographic measurements of fundamental frequencies studied by Abramson on citation forms of monosyllabic words in 1962 show that the mid tone starts near the middle of the speaker's voice range and remains level; if it occurs before a pause, it drops slightly at the end. The low tone starts just below the middle of the voice range, drops gradually, and levels off somewhat above the bottom of the range. The falling tone starts rather high and drops rapidly to the bottom of the range. The high tone starts above the middle and rises slowly before a pause; in certain phonetic environments it drops slightly toward the end and shows somewhat laryngeal construction with irregular pulsing. The rising tone starts quite low and rises rapidly to the top of the voice range. (See Figure 1.)

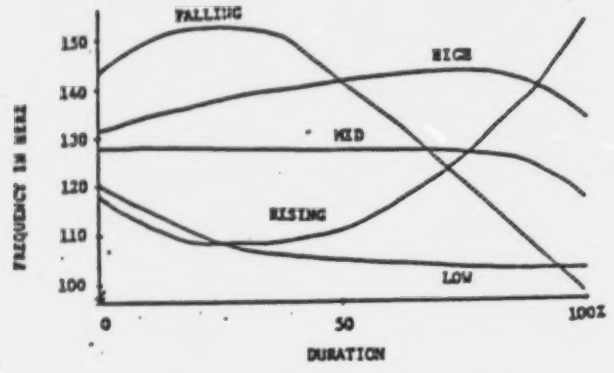

FIGURE 1. TONES ON DOUBLE VOWELS

Source: Abramson 1962:127.

Erickson (1974) also studied the shapes of the F_0 contours of the five tones of Standard Thai in utterance-final position. She found that they agree with those described by Abramson (1962). Gandour (1975) found that the contrast between all Thai tones is maintained, i.e., none of the tones neutralized, even in fast casual speech.

In principle, each tone can be part of any Thai syllable, with the following restrictions: single-vowel syllables ending in a stop have only high and low tones, and long-vowel syllables ending in a stop have only falling or low tones. Table 1 is a summary of the restrictions on the distribution of the five lexical tones ("+" indicates that the tone may occur on the syllable structure; "-" indicates that the tone may not occur).

Syllabic Structure	Tone				
	Mid	Low	Falling	High	Rising
CVV	+	+	+	+	+
CV(V)N	+	+	+	+	+
CV(V)G	+	+	+	+	+
CVS	-	+	-	+	-
CV?	-	+	-	+	-
CVVS	-	+	+	-	-

N = m n ŋ
S = p t k
G = w y

TABLE 1

RESTRICTIONS ON THE DISTRIBUTION OF THE FIVE LEXICAL TONES

Vowel Duration in Standard Thai

In Standard Thai there are nine vocalic phonemes that occur as single vowels and double vowels. Double vowels consist of geminates and vocalic clusters. The geminate vowels are longer than their single counterparts in a given context, and this vowel length is a distinctive feature of Thai. One of the studies concerning this is Abramson (1974: 76). He found that the ratio between corresponding long and short vowels of citation form is 2.5. (See Table 2.)

	V	VV
Number	14	14
Averages in msec	87	215
Ranges in msec	60-150	160-330
VV/V ratio	2.5	

TABLE 2

DURATIONS OF VOWELS IN MINIMAL PAIRS IN A CARRIER SENTENCE

According to Abramson, this ratio is also maintained in running speech, but the ranges of duration overlap by 10 msec.

My own study is described in the following section.

Procedure

The data selected for investigation consist of 30 tokens of $C_1V(V)^TC_2$ syllable structure.

V segments are [i:ii, a:aa, and u:uu]. T segments are (1) mid-level (not marked), (2) low-level (ˋ), (3) high-level (ˊ). C_1 segments are [p, c, s], and C_2 segments are [n, p, t, k].

The list contains 30 tokens. All are placed in utterance-medial position in the frame.

phûut kham wâa_____daŋ daŋ nɔ̀ɔy
say word that_____loud loud Final particle
"Say the word_____louder."

Because of their placement within the frame sentence, all words in the blank receive stress. The vowels [i:ii, a:aa, and u:uu] are arbitrarily chosen as representatives of the Thai vowel system.

The initial consonants [p, c, s] and final consonants [p, t, k] are chosen on the assumption that they will create the least problem in measurement. Despite the fact that [n] may create problems of measurement, it is chosen in order that the minimal pairs of short and long vowels can receive the three level tones according to the restrictions of tonal distributions in Thai.

Some syllables used in this study have meaning and actually occur in the language. The reading list was arranged in random order. The words were written in the Standard Thai alphabet, which indicates tonal differences. The groups of words used are listed in Table 3.

The reading lists were read by four native speakers of Standard Thai, two men (A and T) and two women (P and S). The speakers were told to read the list at their normal speed. Each speaker read the list two times, except Speaker A, who read it three times. The recording was made in one session under language-laboratory conditions. Then wide-band spectrograms were made from the first recording of all the reading-list items except for some problematic readings.

The measurement points of vowel durations are as follows. If a syllable initial consonant is a stop [p], the starting point of measurement is made shortly after the release of the stop. If the initial consonant is an affricate [c] or a fricative [s], it is made on the voicing onset of vowels. The ending point of measurement is made on the voicing offsets

i:ii	
pin	Philippines
piin	to climb
pìn	a straight pin with rounded head
pìin	ø
pín	sound imitation
píin	sound imitation
cìp	to sip
cìip	pleat, to pleat
cíp	small, tiny
cíip	Jeep
a:aa	
pan	to share, divided into shares
paan	birthmark
pàn	to spin
pàan	remie, flax
pán	ø
páan	ø
sàt	animal
sàat	to toss out, to splash
sát	to throw, to toss
sáat	"Sarte"
u:uu	
pun	proper name
puun	lime
pùn	Japanese
pùun	ø
pún	sound imitation
púun	sound imitation
sùk	to be ripe
sùuk	fruit
súk	to snuggle
súuk	ø

TABLE 3

DATA

of the vowels. Fortunately, the nasal final [n] does not create any problem in deciding the transitional point from vowel formant to syllable final nasal formant. Finally, all measurements are compared. All vowel duration data are given in milliseconds.

Results

As mentioned above, one hypothesis states that the pitch values of the three relatively level tones in Thai are negatively correlated with vowel duration. A later study refutes this hypothesis, i.e., it does not evidence strong negative correlation "between F_0 values obtained on vocalic nuclei of the three relatively level tones and corresponding vowel duration values." (Roberson 1982:136).

In Table 4, five columns of the data list and vowel durations of the four speakers are arranged in sets of pairs of short vowels of low and high tones and long vowels of low and high tones. The results are:

1. Except for speaker A and the areas in the boxes, all vowel durations of low tones are either shorter than or equal to those of the high tones.

2. For the measurements enclosed in boxes, the vowel durations of low tones are longer than those of the high tones.

3. Speaker A's vowel durations for the low tones are shorter than those of the high tones in syllables ending with the stops [p, t] but vice versa in syllables ending with nasal [n] for the vowels [i:ii, a:aa].

4. For the syllables with [u] of speaker A, the durations of low-tone syllables are either longer than or equal to those of the high tones.

Summarizing this study, one can say that there is no correlation between level tones in Thai and vowel durations for the same minimal pairs. If there is such a correlation, it tends to be due to characteristics of individual speakers.

The results of averaging in Table 5 confirm Roberson's study; that is, there is no negative correlation between high and low tones and vowel durations in Thai, but one may say that there are overall tendencies in favor of the hypothesis that durations of the high-tone vowel nuclei are longer than those of the low-tone vowel nuclei.

	A	T	P	S
cìp	100	70	95	95
pín	125	80	120	135
cíp	130	80	100	120
pín	110	100	150	150
ciìp	200	205	205	240
piìn	280	235	220	260
ciíp	230	220	215	260
piín	215	240	220	290
sàt	125	105	120	125
pan	145	125	140	155
sát	140	130	130	160
pán	125	145	140	180
saàt	225	260	240	310
paàn	260	250	250	300
saát	315	260	260	335
paán	260	270	240	350
sùk	135	80	130	140
pùn	140	100	110	140
súk	110	100	130	140
pún	110	110	150	145
suùk	240	230	260	295
puùn	225	260	230	280
súk	200	215	200	295
pún	225	240	215	300

TABLE 4

COMPARISON OF VOWEL DURATION OF LOW AND HIGH TONES
ON MINIMAL PAIRS OF SHORT VOWELS AND LONG VOWELS

	A		T		P		S	
	V(V)	V(V)	V(V)	V(V)	V(V)	V(V)	V(V)	V(V)
Number	12	12	12	12	12	12	12	12
Averages in msec.	183	181	167	176	177	179	206	227
Ranges in mesc.	100-280	110-315	70-260	80-270	95-260	100-260	95-310	120-350
V(V)/V(V) ratio	0.99		1.05		1.01		1.10	

TABLE 5

AVERAGES OF VOWEL DURATION OF LOW AND HIGH TONES ON MINIMAL PAIRS OF SHORT AND LONG VOWELS

In Table 6, five columns of the data list and the vowel durations of the four speakers are arranged in minimal sets of short vowels and long vowels with the three level tones. The duration comparison in this table does not yield anything systematic; that is, in this study there is no correlation between pitch on vocalic nuclei and corresponding vowel duration values for the minimal pairs.

The averages in Tables 7 and 8 support the results in Table 5; that is to say, there is no correlation between pitch on vocalic nuclei and corresponding vowel duration values for the minimal pairs.

	A	T	P	S
pin	110	100	115	120
pìn	125	110	110	145
pín	110	100	150	150
piin	200	230	190	260
pìin	280	235	220	260
píin	215	240	220	290
pan	140	130	140	160
pàn	145	125	140	155
pán	125	145	140	180
paan	240	275	270	310
pàan	260	250	260	300
páan	260	270	240	350
pun	130	110	110	145
pùn	140	100	110	140
pún	110	110	150	145
puun	250	265	225	265
pùun	225	260	230	280
púun	225	240	215	300

TABLE 6

COMPARISON OF MID TONES WITH HIGH AND LOW TONES
ON MINIMAL SETS OF SHORT AND LONG VOWELS

	A		T		P		S	
	V(V)	V̀(V)	V(V)	V̀(V)	V(V)	V̀(V)	V(V)	V̀(V)
Number	6	6	6	6	6	6	6	6
Averages in msec.	178	196	185	180	175	178	210	213
Ranges in msec.	110-250	125-280	100-275	100-260	110-270	110-260	120-310	140-300
V̀(V)/V(V) ratio	1.10		0.97		1.01		1.01	

TABLE 7

AVERAGES OF MID TONES AND LOW TONES ON MINIMAL PAIRS OF SHORT AND LONG VOWELS

	A		T		P		S	
	V(V)	V́(V)	V(V)	V́(V)	V(V)	V́(V)	V(V)	V́(V)
Number	6	6	6	6	6	6	6	6
Averages in msec.	178	174	185	184	175	186	210	236
Ranges in msec.	110-250	110-260	100-275	100-270	110-270	140-240	120-310	150-350
V́(V)/V(V) ratio	0.97		0.99		1.06		1.12	

TABLE 8

AVERAGES OF MID TONES AND HIGH TONES ON MINIMAL PAIRS OF SHORT AND LONG VOWELS

Discussion

Roberson's 1982 study aimed at an examination of tones (F_o patterns) of Bangkok Thai and the effects of rapid sentence context. He had six native Thai speakers read 96 real morphemes in phonetic isolation and in rapid sentences. He fully used the equipment and software necessary for acoustic measurements.

His findings about interaction between Bangkok Thai tones and vowel duration are: pitch tends to increase in a rapid sentence context, and corresponding vowel durations tend to decrease in a rapid sentence context; however, he found no systematic interaction between pitch and corresponding vowel durations.

The present study agrees with Roberson's study that there is no correlation of the three level tones or vocalic nuclei and corresponding vowel duration values in Standard Thai. But Gandour's hypothesis may be supportable based on data available to him from various Thai dialects.

Because the main objective of Roberson's study was to examine the F_o patterns of Bangkok Thai in isolation and in rapid sentence context and in male and female F_o patterns, he did not design his data for the study of correlations of duration of vowels and the three level tones. In this present study, which is specifically designed for such correlations, the two variables are not found to be either strongly positively or strongly negatively correlated.

However, the results of this study may not be absolute because many factors are involved: the experiment design, the amount of data, the number of speakers analyzed, the recording process and instructions, personal characteristics of each speaker (for example, speaker P did not speak with maximum volume), the accuracy of measurements, and my lack of statistical knowledge.

With all these factors in mind, further study on this subject is suggested. One specific short or long vowel in various environments should be used to see whether there is any systematic correlation between that specific pitch and vowel duration. Further, any correlations between that vowel with the three level tones could be studied. Finally, such correlations of individual vowels in the language studied could be examined.

REFERENCES

Abramson, Arthur S. 1962. The vowels and tones of Standard Thai acoustic measurements and experiments. IJAL, Publication 20, (IJAL 282, Part III, 1962).

Abramson, Arthur S. 1974. Experimental phonetics on phonology: Vowel duration in Thai. Pasaa. Notes and News about Language Teaching and Linguistics in Thailand, 4. 71-90.

Abramson, Arthur S. 1975a. Thai tones as a reference system. Haskins Laboratories: Status Report on Speech Research, SR-44. 127-136.

Abramson, Arthur S. 1975b. The articulation of tones: An acoustic study of Thai. Haskins Laboratories: Status Report on Speech Research, SR-44. 119-125.

Abramson, Arthur S. 1976. Static and dynamic acoustic cues in distinctive tones, Haskins Laboratories: Status Report on Speech Research, SR-47. 121-127.

Abramson, Arthur S. 1978. The phonetic plausibility of the segmentation of tones in Thai phonology. Haskins Laboratories: Status Report on Speech Research, SR-53. 73-77.

Erickson, Donna 1974. Fundamental frequency contours of the tones of Standard Thai, Pasaa, Notes and News about Language Teaching and Linguistics in Thailand, 4. 1-25.

Erickson, Donna 1976. A physiological analysis of the tones of Thai. Ph.D. dissertation, University of Connecticut.

Gandour, Jack 1974a. Consonant types and tones in Siamese, U.C.L.A. Working Papers in Phonetics 27.

Gandour, Jack 1974b. The glottal stop in Siamese: Predictability in phonological description, U.C.L.A. Working Papers in Phonetics 27.

Gandour, Jack 1975. On the representation of tone in Siamese. In Studies in Thai linguistics in honor of William J. Gedney, ed. by J. G. Harris and J. R. Chamberlain. Bangkok: Central Institute of English Language. 170-195.

Gandour, Jack 1976. Aspects of Thai tone. Ph.D. dissertation, University of California, Los Angeles.

Gandour, Jack 1977. On the interaction between tone and vowel length: Evidence from Thai dialects, Phonetica 34. 54-65.

Roberson, Jack Forrest 1982. Bangkok Thai tone. Ph.D. dissertation, University of Southern California.

ON PREDICTING THE GLOTTAL STOP IN HUALAPAI[1]

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Abstract: Without providing substantial evidence, many Hualapai analysts have posited the glottal stop as one of the phonemes of the language. In this paper, I will argue that the glottal stop is for the most part predictable. Evidence from other Yuman languages also shows that this phenomenon is not unique to Hualapai.

1.0 INTRODUCTION

The behavior of the glottal stop in Hualapai is a very interesting one. Certain linguists (e.g., Winter (1957) Wares (1968) Watahomigie et al (1982)) have attributed a phonemic status to this sound, while some (e.g., Redden (1966)) believe that since the glottal stop is very unstable it should not be assigned a phonemic status. What is rather surprising is that those who regard the Hualapai glottal stop as a phoneme do not provide any convincing evidence in support of its phonemic status. Similarly, those who regard it as non-contrastive ignore the important grammatical role that it plays in Hualapai syntax.

In what follows, I will provide evidence to support the view that, in spite of the "considerable functional load" (Winter 1957:18) that the glottal stop has, it is best regarded as a synchronically non-significant sound in Hualapai. In the first section of this paper, I will present various data to show the instability and the predictability of the glottal stop. I will also write rules, based on the Sound Pattern of English (SPE) feature system (see Chomsky and Halle 1968), for the derivation of the glottal stop. The second section will present the various grammatical functions that the glottal stop performs and how it is gradually losing this role in Hualapai syntax. In the third section, providing

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evidence from other languages, e.g., Mohave, Cocopa, Paipai, Diegueño and others, I will show that this gradual loss of the syntactic role of the glottal stop is not unique to Hualapai.

The data employed in this analysis are primarily taken from Wares (1968), Hinton and Langdon (1976) and Watahomigie et al (1982).

2.0 REANALYSIS OF THE GLOTTAL STOP

2.1 Glottal Stop After a Short Stressed Vowel

The most common environment where the glottal stop occurs in Hualapai is after a short stressed vowel. It is, however, surprising that whenever it occurs in this environment, in most cases, it optionally alternates with vowel length. For example,

1.	misí?	~	misí:	'girl'
	nithí?	~	nithí:	'aunt (mother's older sister)'
	bahé?do	~	bahé:do	'jail'
	yú?	~	yú:	'eye/face'
	wá?k	~	wá:k	'to sit'
	jivsó?	~	jivsó:	'ribs'

There are two ways of accounting for the alternation in (1). First of all, one could assume that the glottal stop is the underlying segment which is optionally realized as [?] or [:] finally or before another consonant. The above assumption will give us the following derivations:

2.	/misí?/	-->	[misí?]	~	[misí:]	'girl'
	/yú?/	-->	[yú?]	~	[yú:]	'eye/face'
	/wá?k/	-->	[wá?k]	~	[wá:k]	'to sit'
	/jivsó?/	-->	[jivsó?]	~	[jivsó:]	'ribs'

On the other hand, one might assume that length is the underlying feature while the glottal stop is one of its optional phonetic realizations. In this case, our derivational history will be as in (3).

3.	/misi:/	-->	[misi?]	~	[misi:]	'girl'
	/yu:/	-->	[yu?]	~	[yu:]	'eye/face'
	/wa:k/	-->	[wa?k]	~	[wa:k]	'to sit'
	/jivso:/	-->	[jivso?]	~	[jivso:]	'ribs'

A cursory look at the status of vowel length in Hualapai may cause us to doubt the validity of the first assumption (i.e., deriving length from the glottal stop). For example, there is a clear distinction between short and long vowels as shown in (4) below.

4.				
	pík	'dead'	ƀí:k	'to drink'
	gúla	'rabbit'	gú:la	'rabbits'
	ɗíyuch	'relative'	ɗiyu:ch	'relatives'
	qák	'to lay'	qá:q	'crow'
	ɗék	'to be many'	ké:k	'to carry'
	búvk	'to twine a basket'	bú:vk	'to enter'
	bílk	'to burn (one thing)'	bí:lk	'to burn (many things)'
	gávk	'to have a large crack'	gá:vk	'to bet money'

The data in (4) shows that vowel length is phonemic in Hualapai, because long vowels consistently contrast with short vowels.

Aside from the issue of contrast, sometimes, in Hualapai, plurals are formed by lengthening a stressed vowel of the singular noun. For example,

5.	Singular	Plural	Gloss
	búd	bú:dj	hat
	bakhéd	bakhé:dj	policeman
	yumbúl	yumbú:lj	forehead
	yiwíl	yiwí:lj	thigh

In (5), the stressed vowel is lengthened and a suffix <u>-j</u> is added after the final consonant to form plurals.

However, if the final consonant is [ʔ], it disappears in the plural form as shown in (6) below.

6.	Singular	Plural	Gloss
	héʔ	hé:j	dress
	húʔ	hú:j	head
	míʔ	mí:j	foot
	ʔpáʔ	ʔpá:j	bullet
	yuʔsunyáʔ	yuʔsunyá:j	eye lash

If the glottal stops behaves like other consonants in the language, one will expect the plural forms in (6) to be as follows:

7. *hé?j
*hú?j
*mí?j
*?pá?j
*yu?sunyá?j

The fact that the plural forms in (6) are not realized as in (7) lends credence to the assumption that the glottal stop could not have been the underlying segment in the alternations presented in (1).

Notice that if the singular form originally has a long vowel, the long vowel is retained and only the suffix -j is added to form the plurals. For example,

8.	Singular	Plural	Gloss
	ɗaní:do	ɗaní:djo	pocket
	jivá:k	jivá:kj	bone
	má:ɗ	má:ɗj	body
	sal-siyú:d	sal-siyú:dj	clove

In addition to using the suffix -j with length in plural formation, there are many instances when plurality is simply marked by lengthening the stressed vowel (also see Watahomigie et al 1982:195).

9.	Singular	Plural	Gloss
	gúla	gú:la	rabbit
	gwevóy	gwevó:y	tire
	hmány	hmá:ny	child
	ilwí	ilwí:	snake
	hnal	hna:l	gourd
	olo	olo:	horse

If one were to assume that length is derived from /?/, there will be no plausible way to account for the instability of [?] in (6) compared to other consonants in the same environment in (5). The stability of vowel length as opposed to that of the glottal stop makes it more plausible to assume that when length alternates with the glottal stop, length is the underlying feature which is optionally realized phonetically as length or the glottal stop.

2.2 The Glottal Stop Before a Stressed Vowel

Another common environment where the glottal stop occurs is before a stressed vowel that is not

preceded by another consonant. The occurrence in this position is also observed by Redden (1966), Winter (1957), and Wares (1968). Redden claims that, "Primary-stressed vowels, not preceded by a consonant, are preceded by a glottal stop" (1966:11). For example,

10. ʔíl 'worm'
ʔáw 'grandchild''
ʔél 'louse'
ʔóp 'No'

Similar to the data in (10) are cases where the glottal stop consistently occurs between two vowels (i.e., V_1V_2) where V_1 is unstressed and V_2 is stressed. For example:

11. daʔóp 'negative marker'
gwathgaʔól 'orange'
saʔádjawo 'store'
heʔélk 'to have lice'
diʔínk 'to halk''
gwegidaʔóla 'cook/chef'

The occurrence of [ʔ] in (10) and (11) is derivable by a rule that inserts the glottal stop before a stressed vowel, which is not preceded by another consonant. Such a rule can be formalized as shown in (12) below.

12. Glottal Stop Insertion Rule:

$$\emptyset \quad \text{--->} \quad [ʔ] \; / \; \left\{ \begin{matrix} V \\ \# \end{matrix} \right\} \text{--} \; \underset{[+\text{Stress}]}{V}$$

The rule in (12) states that a glottal stop is inserted before a stressed vowel that is preceded by another vowel or a morpheme boundary. If rule (12) adequately accounts for the occurrence of the glottal stop in (10) and (11), it does not seem plausible to assign a phonemic status to it in such environments.

Notice that an unstressed vowel can occur in a morpheme initial position without being preceded by any other consonant or a glottal stop. For example:

13. ucíʔ 'coals'
iyúʔ 'owl'
unʸáʔ 'road'
iyóʔ 'willow'
atáʔ 'reed'

ahá? 'water'
imác 'dance'

The lack of a glottal stop before an unstressed initial vowel, such as in (13), shows that the existence of the glottal stop in (10) and (11) is conditioned by a following stressed vowel.

Notice, that the occurrence of a smooth vowel onset, as shown in (13), is quite unusual, nevertheless, other Hualapai scholars apart from Wares (1968) attested to such data in the language (see Redden 1966 and Watahomigie et al 1982).

2.3 Glottal Stop Alternating With Initial Unstressed Vowels

Apart from alternating with length, the glottal stop is also observed to alternate with an initial unstressed vowel. For example:[4]

14.	aláv	~	?láv	'prickly pear'
	ahmá?	~	?hmá?	'quail'
	amú?	~	?mú?	'mountain'
	uwé?	~	?wé?	'mouse'
	awá?	~	?wá?	'house'
	atá?	~	?tá?	'reed'
	amúl	~	?múl	'antelope'
	umhúl	~	?mhú:l	'ash'
	enyá	~	?nyá	'sun'

The alternations above can also be accounted for in two ways, similar to the alternations with length and the glottal stop. One way is to assume that the glottal stop is realized as [u], [a], or [e] in initial position. The immediate problem with this solution is how to predict when the glottal stop becomes [u] as opposed to [a] or [e]. Since this prediction will be difficult to make, one may consider the other option, which is to assume that any unstressed vowel optionally becomes a glottal stop in initial positions. This alternative solution can be accounted for by the following rule:

15. Unstressed Vowel Replacement Rule
(optional)

$$\left[-\text{Stress}\right] \quad / \; V \; / \quad \rightarrow \quad [\; ? \;] \quad / \quad \# \quad \text{---} \quad C$$

The rule in (15) shows that an unstressed vowel is optionally realized as a glottal stop in initial position when followed by a consonant. This solution which assumes that an unstressed vowel in Hualapai can become a glottal stop, is supported by a similar phenomenon in Cocopa. Hinton and Langdon (1976:126) observe that the initial vowel of Cocopa is "structurally equivalent to the glottal stop of other Yuman languages. It should be noted that an initial glottal stop is present phonetically which, however, is not contrastive in Cocopa".

On the basis of the predictability of the glottal stop in all of the environments discussed above, it does not seem plausible to assign phonemic status to it. Nevertheless, in the next section, I will consider what might have led previous analysts (e.g., Winter 1966, Wares 1968, Langdon 1973, and Watahomigie et al 1982) to posit the glottal stop as one of the phonemes of Hualapai in spite of their awareness of its instability.

2.4 Syntactic Role of the Glottal Stop in Hualapai

Almost every Hualapai syntactician observes the fact that the glottal stop marks the first person pronoun singular prefix. For example:

16. a. Nya - ch gweviyám ʔ - gowá:m - ʔ -wi
I -Subj car 1st drive 1st Aux
Pers Pers
"I am driving a car"

b. Nya-ch haygunyuwá:-l ʔ- yá:m -ay ʔ- yu
I Subj town-into 1st go Fut 1st Aux
Pers Pers
"I will go into town"

c. Nya -ch ʔ- smá: ʔ- yu
I Subj 1st Pers sleep 1st Pers Aux
"I am sleeping"

The function of the glottal stop as the first person prefix is not unique to Hualapai. This role is also performed by the glottal stop in most Yuman languages. For example, Hinton and Langdon (1976), in their analysis of object-subject pronominal prefixes in La Huerta and Mesa Grande Diegueño,

observe that both La Huerta and Mesa Grande Diegueño use the glottal stop to mark the first person prefix. Their comparative data also led them to assign this function to the glottal stop in Paipai, Yuma, Hualapai, and Havasupai.

Similarly, Mixco (1978) claims that the glottal stop is particularly apparent in the pronominal verbal prefixes which includes the glottal stop as the first person marker.

Apart from functioning as the first person prefix in almost all Yuman languages, Redden (1966:18) also observes that as a suffix, the glottal stop distinguishes questions from commands in second person form. In addition, Watahomigie et al (1982) show that the glottal stop sometimes replaces the subject marker in Hualapai. For example:

17. a. Nya - ch gweviyám ʔ- há:m -yu
I Subj car 1st Pers see Aux
'I saw the car'

b. Nya - ʔ gweviyám - ʔ - há:m -yu
I Subj car - 1st pers -see - Aux
'I saw the car'

In (17a), -ch, which is the subject marker, is replaced by [ʔ] without changing the meaning.

All the above syntactic functional load may account for why previous analysts posit the glottal stop as a phoneme. However, it has been observed that younger speakers delete the glottal stop when it functions as a first person prefix or as a subject marker (see Winter 1966 and Wares 1968). Similarly, Watahomigie et al (1982) gave the following examples to show how the glottal stop is deleted without affecting the interpretation of the sentence except for the formality.

18. a. Nya -ch ʔ- smá: ʔ- yu (Formal
I Subj 1st Pers sleep 1st Pers Aux Speech)
"I am sleeping"

b. Nya -ch ʔ- smá: yu (Everyday
Speech)

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c. Nya -ch smá: yu (Everyday Speech)

In (18b and c) the glottal stop functions as the first person prefix is deleted without affecting the meaning of the sentence.

Considering everyday speech and the speech of younger speakers, it is obvious that the glottal stop is losing its syntactic role synchronically. Therefore, there is not enough synchronic evidence, based on the syntactic role of the glottal stop, to assign a phonemic status to it. It should, however, be pointed out that since the glottal stop still alternates with some phonemes in the language, one may assume that the change in the phonemic status of the glottal stop is still an ongoing process.

3.0 Evidence From Other Yuman Languages

The controversy over the phonemic status of the glottal stop is not unique to Hualapai. Wares (1968:39), in his comparative study of Yuman languages, admitted that he posited the glottal stop as a phoneme in Paipai and Diegueño only "for purposes of comparisons". He further stated that further investigation may show that the glottal stop occurs non-phonemically in Paipai. Similarly, for Diegueño, he observed that, even though the presence of the glottal stop often marks juncture, "it does not seem obligatory" (Wares 1968:37).

About eight years later, Hinton and Langdon (1976) noted that initially, the glottal stop is very unstable and is frequently omitted in Diegueño, and it is non-distinctive in Cocopa. As far as they are concerned, there is "a phonological trend to delete glottal stop, based on synchronic evidence of such a process in <u>most</u> (emphasis mine) Yuman languages" (Hinton and Langdon 1976:123).

As regards Mohave, as far back as 1911, Kroeber observed that the glottal stop is phonetically conditioned in the language, and in rapid speech, "it is likely to be slurred out of existence" (Kroeber 1911:63).

All the above observations lend credence to the fact that the gradual loss of phonemic status by the

glottal stop is a common process in most Yuman languages, and therefore not unique to Hualapai.

4.0 CONCLUSION

I have shown that the glottal stop is predictable in almost all the environments where it occurs. I assume that it synchronically co-exists with its alternants because the change is an ongoing process which has not been completed.

This trend is also evidenced in the syntax of Hualapai and other Yuman languages (see Hinton and Langdon 1976 and Watahomigie and others 1982) where the glottal stop can be dropped without affecting the interpretation of the sentence.

Notice, however, that this gradual change in the phonemic and functional role of the glottal stop is most prominent in the speech of younger speakers. What one can infer from this is that the glottal stop which was phonemic diachronically is gradually losing its contrastive power synchronically in Hualapai and most Yuman languages.

NOTES

1. Hualapai is a Yuman language spoken around Peach Spring, Arizona. It is closely related to Havasupai, Paipai, and Yavapai which are regarded as a subgroup of the family (see Langdon 1975)

2. The data in this paper are written in Hualapai orthography unless otherwise specified. For example,

d	=	[t̪]
~~d~~	=	[t]
g	=	[k]
~~b~~	=	[p]
ch	=	[c"]
j	=	[c]
ny	=	[ñ]

3. These examples are from Wares (1968).

4. See Watahomigie et al (1982) for similar alternation between the glottal stop and an initial unstressed vowel.

REFERENCES

Biggs, Bruce 1957. "Testing Intelligibility Among Yuman Languages." International Journal of American Linguistics. 23:57-62

Chomsky, Noam and Morris Halle. 1968. Sound Pattern of English. New York: Harper and Row.

Gorbet, Larry P. 1976. A Grammar of Diegueño Nominals. New York: Garland.

Hinton, Leanne and Margaret Langdon. 1976. "Object-Subject Pronominal Prefixes in La Huarta Diegueño." In Hokan Studies eds. Margaret Langdon and Shirley Silver. (Janua Linguarum) 181:113-128.

Kendall, Martha B. 1975. "A Preliminary Survey of Upland Yuman Dialects." Anthropological Linguistics. 17:89-101.

Kroeber, A.L. 1911. "Phonetic Elements of the Mohave Language." University of California Publications in American Archaeology and Ethnology. 10:45-96.

Kroeber, A. L. 1948. "Classification of Yyuman Languages." In University of California Publications in Linguistics. 1:21-40.

Kroeber, A. L. and J. P. Harrington. 1914. "Phonetic Elements of the Diegueño Language." University of California Publication in American Archaeology and Ethnology, ed. A. L. Kroeber 11:177-188.

Langdon, Margaret. 1970. "Review of A Comparative Study of Yuman Consonantism" by Alan Wares. Language 46:533-544.

Langdon, Margaret. 1975. "Boundaries and Lenition In Yuman Languages." In International Journal of American Linguistics. 43:218-233.

Langdon, Margaret. 1976. "The Proto-Yuman Vowel System." In Hokan Studies eds. Margaret Langdon and Shirley Silver (Janua Linguarum) 181:103-111.

Munro, Pamela. 1976. Mojave Syntax. New York: Garland.

Mixco, Mauricio J. 1978. "Cochimi and Proto-Yuman: Lexical and Syntactic Evidence for a New Language Family in Lower California." In University of Utah Anthropological Papers. #101.

Mixco, Mauricio J. 1983. "Kiliwa Texts." University of Utah Anthropological Papers. #107.

Redden, James E. 1966. "Walapai I: Phonology." International Journal of American Linguistics. 32:1-16.

Redden, James E. 1976. "Walapai Syntax: A Preliminary Statement." In Hokan Studies, eds. Margaret Langdon and Shirley Silver (Janua Linguarum). 181:103-111.

Wares, Alan C. 1968. A Comparative Study of Yuman Consonantism. Janua Linguarum 57. The Hague: Mouton.

Watahomigie, L.J., J. Bender and A.Y. Yamamoto. 1982. Hualapai Reference Grammar. Los Angeles: American Indian Studies Center, UCLA.

Winter, Werner. 1957. Yuman Languages I: First Impressions." International Journal of American Linguistics. 32:1-16.

Prefix oní- in Yorùbá

Antonia Y. Fọlárin

1. Introduction

In Fọlárin (1987), I pointed out that the prefix oní- is the only class-maintaining prefix in Yoruba. For example, it is the only prefix attached to a noun to form another noun. It can be prefixed to either a derived or a non-derived noun and the resulting meaning of the nouns derived with oní- prefixation is the "owner of ....." or "possessor of .....". In some cases, the meaning can refer to a performer of an action or of a particular profession.

Examples (1) and (2) illustrate the prefixation of oní- to derived and non-derived nouns respectively.

(1.) oní- prefixed to derived nouns:

	I Verbs		II derived nouns		III oni-prefixation[1]
a.	jà 'to fight'	-->	ìjà 'fight'	-->	onìjà 'someone who fights or loves to fight'
b.	so 'to produce fruit'	-->	èso 'fruit'	-->	eléso 'owner of fruits'
c.	kú 'to die'	-->	òkú 'dead person'	-->	olókú 'owner of the dead person'
d.	dé 'to crown'	-->	adé 'crown'	-->	aládé 'owner of the crown'

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(2) oní- prefixed to non-derived nouns.

a.	oní prefix 'owner of'	+	aṣọ 'clothes'	-->	alásọ 'owner of clothes'
b.	oní	+	ẹsẹ 'legs'	-->	ẹlẹsẹ 'owner of legs'
c.	oní	+	ewé 'leaves'	-->	eléwé 'owner of leaves'
d.	oní	+	bàtà 'shoes'	-->	onibàtà 'owner of shoes'
e.	oní	+	ọmọ 'child'	-->	ọlọ́mọ 'owner of a child'

Notice, however, that there are other cases where the oní- prefix also functions as a class-changing prefix. For example, the data in (3) illustrate the prefixation of oní- to adverbs[2] to form nouns.

3.	a.	oní	+	jàgídíjàgan 'trouble making'	-->	onijàgídíjàgan 'a trouble maker'
	b.	oní	+	wérewèrè 'aimlessly'	-->	oniwérewèrè 'someone who does things aimlessly'
	c.	oní	+	bákibòki 'nonsense'	-->	onibákibòki 'someone who does nonsensical things'

Considering the existence of prefix o[3]- and the verb ní "to have", or "to possess" in Yoruba, some Yoruba scholars, e.g., Abraham (1958), Rowlands (1969), Owolabi (1981) and Awobuluyi (1983), assumed that oní- is a compound prefix which consists of two morphemes o (prefix) and the verb ní "to have". Others such as Akinlabi (1986) share a similar view with the scholars mentioned above except that they assume that the o- of oní- is the second person pronoun singular subject that already exists in Yoruba.

On the other hand, there are other scholars, such as Bamgbose (1965, 1967, and 1984) and Ogunbowale (1970), who assume that oní- is a single morpheme without providing evidence to support this assumption. In this paper, I will discuss the advantages of analyzing oní- as two morpemes o- and ní-. However, I will show that in spite of these advantages, based on facts of Yorubá, it is better to analyze oní- as an inseparable, single morpheme.

2.1 Oní- As Two Separate Morphemes

The question of analyzing oní- as a sequence of o "second person singular pronoun subject" + ní "to have" as suggested in Akinlabi (1986) does not seem plausible because the meanings of nouns derived with oní- prefixation have nothing to do with the notion "second person singular". For example, the nouns derived in (1a) can refer to either the speaker or the hearer. It can also be used to refer to one person (singular) or many people (plural).

A more plausible analysis is one that analyzes oní- as o- (nominalizing prefix) + ní "to have." This type of analysis will, for example, account for the forms in (2a-c) as shown in (4a-c) respectively.

(4)	I Verb+Noun		II Verb Phrases*		III o- Prefix -ation		IV Assimi-lation Process
a.	ní + aṣọ 'to have' 'clothes'	-->	láṣọ 'to have clothes'	-->	oláṣọ	-->	aláṣọ 'owner of clothes'
b.	ní + ẹsẹ̀ 'legs'	-->	lẹ́sẹ̀ 'to have legs'	-->	olẹ́sẹ̀	-->	elẹ́sẹ̀ 'owner of legs'
c.	ní + ewé 'leaves'	-->	léwé 'to have leaves'	-->	oléwé	-->	eléwé 'owner of leaves'

The analysis in (4) assumes, first of all, the derivations of verb phrases in column II, in the

syntactic component. These verb phrases will further serve as inputs to the morphological process of o- prefixation as shown in column III. Finally, if the first vowel of the verb phrase is either e, ẹ, o, or a, the prefix o- undergoes a vowel assimilation rule, which assimilates all the features of the prefix to the first vowel of the verb phrase as shown in column IV.

This analysis has several advantages:

i. It is economical in the sense that there will be no need of postulating an extra prefix since o- already exists in Yoruba as a nominalizing prefix and ni also exists as a verb.

ii. It serves as support to the claim that phrasal forms[5] do serve as inputs to the morphological component of Yoruba.

iii. It also confirms the independent existence of the phrasal verbs, such as in column II, in Yoruba. This fact can be illustrated by comparing the sentences in (5) with the derivations in (4) above.

(5) a. Mo + ni + aṣọ --> mo láṣọ/ mo ni aṣọ
'I' 'have' 'clothes' 'I have clothes'

b. O + ni + ẹsẹ̀ --> O lẹ́sẹ̀/ O ni ẹsẹ̀
'You' 'have' 'legs' 'You have legs'

c. Ó + ni + ewé --> Ó léwé/ O ni ewé
'He' 'have' 'leaves' 'He has leaves'

The examples in (5) show that the items in column II of (4) can exist as independent verb phrases in a sentential frame. Since nominalization of verb phrases through prefixation is a common phenomenon in Yoruba, it does look plausible to analyze oní- as two morphemes.

What this analysis implies, however, is that any noun that contains oní- is derived by prefixing o- to verb phrases that underlyingly consist of the verb ni- 'to have' plus an object noun or an adverb. In the next section, I will provide evidence to show that this is not the case in Yoruba.

2.2 Evidence in Support of oní- as a single morpheme

As pointed out in section 2.1, analyzing oní- as o- + ní implies that any form or derived noun that has the structure oní+X must have the ní+X (i.e., "have X") counterpart as correctly shown in column II of (4). However, examples abound in Yoruba to show that there are nouns that have the structure oní+X but the ní+X counterparts either do not exist or sound awkward. For example:

(6) a. onísòwò (derived from oní+isòwò) *nísòwò
'a trader' 'a trade'

b. oníwàdùwàdù " " oní+wàduwàdu) *níwàdùwàdù
'a restless person' 'to be restless'

c. onísàngó " " oní+sàngó) *nísàngó
'şango worshipper'

d. ológò " " oní + ògò) *lógò
'collection agent' 'debt collecting'

e. onísègùn " " oní+ìsègùn) *nísègùn
'owner of medicine or a doctor' 'medicine'

f. onídùró " " oní+ idúró) *nídùró
'someone who stands as a surety' 'standing as a surety'

g. onígbàdégbà " " oní+igbàdégbà) *nígbàdégbà
'something that happens from time to time' 'from time to time'

h. alárinà " " oní + àrinà) *lárinà
'marriage broker'

i. onísẹ̀nà " " oní + isẹ̀nà) *nísẹ̀nà
'a carpenter' 'carpentry'

j. alágbe " " oní + agbe) *lágbe
'a begger' 'begging'

If the starred phrasal forms in (6), which are supposed to serve as inputs to the o- prefixation process, are awkward or impossible forms in the language, then the derivation of the forms in (6a-j) from the structure o+ní+X will be highly questionable.

Aside from the question of the non-existence of some ni+ X structures, a comparison of the behavior of prefix o- with that of the o- in oní- shows that the two o's are not from the same source because they manifest different characteristics.

For example, the prefix o- in Yoruba harmonizes with some of the features of the following vowel, while the o in oní- assimilates to all the features of the following vowel. Examples (7) and (8) illustrate these different characteristics of prefix o- and o of oní- respectively.

7. Prefix O-/O

A		B	
ò-ṣere	'actor'	ọ̀-kọ́ṣẹ́	'apprentice'
o-ro	'a mean person'	ọ̀-rẹ́	'friend'
ò-ye	'wisdom'	ọ-lá	'riches'

8.

	I	II V-Deletion	III /n/--> [l]	IV V-Assimilation
a.	oní+ewé -->	onéwé -->	oléwé -->	eléwé 'owner of leaves'
b.	oní+ẹsẹ̀ -->	onẹ́sẹ̀ -->	olẹ́sẹ̀ -->	elẹ́sẹ̀ 'owner of legs'
c.	oní+aṣọ -->	onáṣọ -->	oláṣọ -->	aláṣọ 'owner of clothes'

In (7A) the prefix O- is realized as o-, if the following vowel is e or o, while (7B) shows that the same prefix is realized as o-, if the following vowel

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is either o, ẹ, or a (also see Folárin 1987). On the other hand, the last column of (8) shows that the o- of oní- in column I becomes completely assimilated to the features of the following vowel. If the o- in (8) is the same as the prefix o- in (7), the expected forms in column IV of (8a, b, and c) will be as represented in (9a, b, and c) below.

(9) a. *oléwé

b. *olẹ́sẹ̀

c. *oláṣọ

The fact that (9a, b, and c) do not occur in Yoruba confirms the assumption that the o- in (8) is different from the prefix o- in (7). This being the case, it is wrong to assume that oní- is made up of two morphemes o- (prefix) and ní 'to have'.

3. Conclusion

In the above discussion, I have argued that oní[4] should be analyzed as a single unit that cannot be segmented into o- (prefix) and the verb ní 'to have'. This assumption is supported by the facts of Yoruba which show that not all the forms with oní + X structure have the ní + X counterparts. In addition, this assumption is further supported by the different characteristics manifested by prefix o- and o- of oní-.

If oní- is made up of o- and ní, one would expect the o-of oní- to behave similarly to prefix o- which already exists in the language. Since the contrary is the case, I am assuming that oní- should be treated as a single morpheme instead of two separate morphemes.

NOTES

1. There are some phonological rules that interact here with oní- prefixation to derive the forms in column III in examples (1) and (2). The derivations of eléso, oníjà, aláṣọ, and olómọ below will

illustrate how such phonological rules interact with oní- prefixation.

Stems:	aṣọ 'clothes'	èso 'fruits'	ọmọ 'child'	ijà 'a fight'
Prefixation:	oní+aso	oní+èso	oní+ọmọ	oní+ijà
V-Deletion:	on'aṣọ	on'eso	on'ọmọ	on'ijà
Tone rules:	onáṣọ	onéso	onọ́mọ	onijà
/n/-->[l] :	oláṣọ	oléso	olọ́mọ	---
V-Assimilation:	aláṣọ	eléso	ọlọ́mọ	---
Outputs:	aláṣọ	eléso	ọlọ́mọ	onijà

In the above derivations, a denasalization rule changes /n/ to [l] in the environment of oral vowels apart from /i/, while a vowel assimilation rule assimilates all the features of /o/ to those of the initial vowel of the noun.

2. These adverbs are commonly referred to as ideophones (see Awoyale 1974 and Akinlabi 1985).

3. O- represents a [-High], [-Low], and [+Back] vowel that is not marked for advanced tongue root. As I will illustrate later on, it is realized as o- when the vowel of the following syllable is either /i/, /e/, /o/, or /u/. On the other hand, if the vowel of the following syllable is either /ọ/, /ẹ/, /a/, /i/, or /u/, the prefix will be realized as ọ-. The vowels /i/ and /u/ do not participate in the harmonic system in Yoruba (see Fọlárìn 1987 for details).

4. The verb phrases here have undergone a denasalization rule.

5. In Fọlárin 1987, I argued that outputs of the syntactic component should be allowed to serve as inputs to the morphological component in Yorùbá, since there are many verb phrases that undergo morphological processes such as prefixation and reduplication.

6. This same assumption is applicable to prefix oni- which is the conterpart of oní- in forms such as:

a. olòṣi 'poor person' derived from oni + òṣi 'poverty'

b. elèṣù 'stumbling block' derived from oni + èṣù 'devil'

See Awobuluyi (1983) and Bamgboṣe (1984) for more examples of words with oni-.

REFERENCES

Abraham, R.C. 1958. Dictionary of Modern Yoruba. London: University of London Press.

Akinlabi, M. Akinbiyi. 1985. Tonal Underspecification and Yoruba Tone. University of Ibadan doctoral dissertation.

Akinlabi, M. Akinbiyi. 1986. "Issues in the Development of Lexical Strata for Yoruba." University of Ibadan, MS.

Archangeli, Diana and Douglas Pulleyblank. 1986. "The Content and Structure of Phonological Representations." University of Arizona and University of Southern California, MS.

Awobuluyi, A. Ọladele. 1983. "Iyọpo Fawẹli: Amojufo Ara Fonoloji Yoruba." Idánilẹ́kọ ọwọ keji ni iranti Ologbe Ẹnjinnia Adeyẹmi Karunwi. Yunifasity t'Eko.

Awobuluyi, A. Ọladele. 1984. "On the Reality of Vowel Coalescence." University of Ilorin, Nigeria, MS.

Awoyale, J.O.Y. 1974. Studies in the Syntax and Semantics of Yoruba Nominalizations. University of Illinois doctoral dissertation.

Bamgbose, Ayọ. 1965. A Grammar of Yoruba. Cambridge: Cambridge University Press.

Bamgbose, Ayọ. 1967. A Short Yoruba Grammar. Ibadan: Heinemann Educational Books (Nig.) Ltd.

Bamgbose, Ayọ. 1984. "Yorùbá: A Language in Transition." University of Ibadan, MS.

Fọlárìn, Antonia Y. 1987. Lexical Phonology of Yorùbá Nouns and Verbs. University of Kansas doctoral dissertation.

Ogunbọwale, P. 1970. The Essentials of the Yoruba Language. London: University of London press.

Owolabi, Kọlawọle. 1981. "A Pedagogical Description of Derived Nouns in Yoruba." University of Ibadan, MS.

Owolabi, Kọlawọle. 1984. "Isori Ọrọ-Orukọ ti a Sẹda Nipa Lilo Afomọ-Ibẹrẹ ati Atọka-Afikun ninu Ede Yorùbá." Langbasa 1:61-99.

Rowlands, E. C. 1969. Teach Yourself Yoruba. London: London University Press.

THE STUDY OF MINORITY LANGUAGES IN CHINA

Zili He

Abstract: The study of minority languages in the People's Republic of China, in the form of governmental organized research since the 1950s, has resulted in the recent publication of over fifty descriptive grammars. Some practical purposes of the study were the identification of ethnicity and orthographic design and reform. In the past, political interventions were detrimental. The current research organizations and their major tasks are introduced.

I will begin by mentioning two papers published during the second decade of this century: Zhuang Qi, 1917, "Miaowen lüeshu" (A brief account of Miao) in The Eastern Miscellany 14.1-5, and Jun Shi, 1917, "Xizangyu zhi tezheng" (Some characteristics of Tibetan) in The Eastern Miscellany 14.93-8. Also there was Mao Kuenyi's paper entitled "Xianxing Zhongguo zhi yizuyu ji Zhongguo fangyan zhi fenlei" (The classification of current China's minority languages and Chinese dialects), published in 1925 in Folk Songs 89.2-6. In The Chinese Year Book of 1936-1937, Li Fanggui wrote the article "Languages and dialects", which laid the foundation for the genetic grouping of minority languages in China. Later, another influential work was done by Luo Changpei and Fu Maoji, "Guonei shaoshuminzu yuyanwenzi de gaikuang" (A survey of the minority languages and writings in China), which was published in 1954 in Zhongguo Yuwen (Chinese Languages and Linguistics) 3.21-6.

Between 1956 and 1958, organized by the Minority Languages Department of the Chinese Academy of Sciences and the Central Institute of Nationalities, seven investigation teams, consisting of over seven hundred researchers trained in phonetic transcription and grammatical analysis, conducted general surveys on forty-two minority languages in fifteen regions. The results of these investigations were:

a) a better knowledge of the dialectal differences within minority languages was gained, and certain decisions were made about such dialectal divisions;
b) raw data concerning the linguistic structures, affiliation, and mutual influences of minority languages was collected;

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c) for those minority groups who had the desire to invent writing systems for their languages, standard dialects and standard pronunciations were selected, and alphabetical writing systems were designed;
d) there was growth in the forces specializing in minority language research.

From 1959 to 1966, drafts of descriptive grammars of minority languages were prepared, discussed, revised, and readied for publication. Unfortunately, most of them had not been published when the cultural revolution broke out. It lasted for ten years, during which previous efforts were criticized as being guided by bourgeois ideas, and many of the manuscripts were lost. However, some linguists were still doing their underground work under the most extreme situations, and the study of minority languages was still making very slow progress. After the cultural revolution, since 1978, the surviving linguists took up their work again, revising, supplementing, and verifying their materials on the basis ofnew investigations. So far, about fifty descriptive grammars of minority languages have been published.

The contentsof descriptive grammars of China's minority languages usually include the following:
a) general information about the name(s) of the language; the ethnicity, historical background, geographical distribution, demography, cultural characteristics, and present state of its speakers; the dialectal variation of the language; the affiliation of the language; and the history of the study of the language;
b) the phonological system, including segmental and suprasegmental features, phonotactics, syllable structure, allophonic variations, and the phonology of dialectal differences and of loanwords;
c) the lexicon, including the basic vocabulary, cognates in related languages or dialects, dialectal differences in vocabulary, loanwords, and the morphology of the language;
d) the grammar, including word classes, the structure of phrases, sentence structure, sentence types, and the syntactic influences from other languages (basically from Chinese);
e) dialects, often with detailed and separate treatment of each major dialect;
f) the writing system of the language, if there is any;
g) a vocabulary list.

The objectives of the study of minority languages in China are always more practical than academic. The first two priorities are to serve the needs of the minority peoples, and to carry out the government's policies concerning minorities. These are, of course, political statements, which mean different things in different situations. To look at the positive side, one of the roles the study of minority languages plays is in the identification of ethnicity.

China is a multiethnic state with a long history of co-habitance and mutual influence among these ethnic groups. In the identification of a certain minority, there are usually three steps to be taken:

a) to determine whether the group is ethnically distinct from the Han majority;
b) to determine whether the group is a part of any already recognized minority, or whether it is truly discrete and independent;
c) to assign an independent status to the group as a distinct ethnic minority with an official name.

The linguistic variaties spoken by the members of the group is certainly considered one of the major criteria. Work is assigned to linguists to decide the status and affiliation of the language(s) spoken by the group, and to decide whether they are merely dialect(s) of some already classified language(s).

Linguistic evidence is not taken as the sole or the most reliable evidence. The Hui minority, for example, is identified on the basis of their Islamic religion and custom, although they are primarily speakers of Chinese dialects. One part of the Yugur minority speaks a language called Western Yugur, which belongs to the Turkic group of the Altaic family. The other part of the Yugur minority speaks a different language called Eastern Yugur, which belongs to the Mogolian group of the Altaic family. The two parts speaking two distinct languages still constitute the same ethnic minority -- Yugur. On the other hand, the same language may be spoken by several different minority groups, as in the case of the Zhuang language, which is also spoken by the Miao, Yao, and Maonan minorities. There is also the problem of drawing the line between language and dialect. Sometimes the dialectal difference is so great that linguists are hesitant about the acceptance of the existence of a single language.In the case of the Bouyei language, the differences between Bouyei and the northern dialect of Zhuang are smaller than those between the northern

and the southern dialects of Zhuang. However, due to the fact that Bouyei is recognized as a minority distinct from the Zhuang, the Bouyei language is regarded as a separate minority language in accordance with the desire of the people. It is argued that, although the characteristics of linguistic structures are of prime concern in distinguishing between language and dialect, the speakers' historical traditions and social development must also be given due consideration. The general principles of ethnicity identification is that a holistic approach is in order which takes into account the factors of language, history, geographical distribution, socio-economic life, and psychological nature. Historical documentations, archaeological findings, and vernacular folklore are to be consulted. Group members should be interviewed concerning their own feelings of ethnic identity. Furthermore, the work of ethnic identification is considered necessary for national unity and for the economical and cultural developments of the minorities. Thus, we can see that the study of minority languages plays a necessary, though not a decisive, part in the identification of ethnicity in China.

Another practical use to which the study of minority languages is put is orthographic design and reform. During the general surveys of minority languages in the 1950s, proposals were made regarding dialectal divisions, the selection of a dialect as the base of the standard written form of the language, and the determination of the standard pronunciation, to those minority groups who had the desire to develop writing systems for their languages. Designs for writing systems using the Latin alphabet were created subsequently for Zhuang, Bouyei, Miao, Dong, Hani, Lisu, Va, Li, Naxi, and Yi languages. Orthographic reforms were carried out in Uygur, and Kazak from the use of the Arabic alphabet to the use of the Latin alphabet, and also in Jingpo and Lahu within the Latin alphabetic system. Reform proposals were made to the Dai minority who had used four writing systems earlier. There have been twists and turns in orthographic design and reform. Some writing systems which were designed were not put to use in practice. Some uses of these writing systems were choked when the political slogan "Great Leap Foreward" was in vogue -- linguistically, it meant that minorities were making great achievements in mastering the Chinese language and writing.

It is true that the learning and using of Chinese language and writing provide the minorities with powerful instruments to participate in the economic and

cultural constructions of the whole country, especially in higher education. On the other hand, minorities in China have thousands of years of ethnic traditions, and still have very solid internal social and family ties. Most spoken minority languages are being used and passed on from generation to generation. Why is it necessary to creat and/or reform their writing systems? The main motivations on the part of the government are, as I see it, political and pragmatic. First of all, minorities have deep feelings for their own languages and writings, which are directly related to their ethnic identity and pride. If the right to their languages is fully respected, and if the written form of their languages can be created, preserved, or improved, this will greatly enhance their positivism and patriotism. Thus, the government's general policy towards minority languages is that the spoken and written languages of the ethnic minorities are to be respected, and that all ethnic minorities have the right to use and develop their languages. As a more moderate goal, the development and use of a writing system will help raise the level of literacy, and promote the economy and culture of the minorities on a local basis. The government also encourages the mutual learning and using of languages and scripts among different ethnic groups, with the purpose of achieving unity and cooperation.

As has been mentioned above, the study of minority languages in China serves certain political purposes as well as academic ones. At times, political intervention can be rather detrimental. From the Great Leap Forward to the end of the Cultural Revolution, minority language studies were criticized. Charges were that the distinctions between minority languages were exaggerated, that certain dialectal differences were augmented into language differences, and that minority languages were isolated, petrified, and mystified. All these, as the criticisms went, were against the spirit of national unity, and against the Marxist dogma of national fusion and extinction of ethnic differences. Academically, Chinese linguists were criticized as being guided by western bourgeois theories and methods. For example, the tracing of family trees in genetic classification placed too much emphasis on divergence, discrepancy, and past history, while ignoring convergence, similarity, and developmental tendency. Another major criticism was that comparative and historical study focused primarily on linguistic facts without giving enough consideration to the (political) history of the people. Although things have gradually been changing for the

better since the end of the Cultural Revolution, it is still the strongest desire of the Chinese intellectuals to have full academic freedom in their study and research, independent of any political fluctuations.

At present, most of the studies and research on minority languages in China are carried out by specialists working at institutes for nationalities, and at official committees for nationality affairs. (The term "nationality" is the official English translation which is used in China for the notion of "ethnicity"). There are nine institutes for nationalities: Central, Yunnan, Northwestern, Southwestern, South-central, Guizhou, Guangdong, Guangxi, and Qinghai. Committees for nationality affairs exist in both the Central Government and all the provincial governments. There is also the Institute of Nationality Studies in the Chinese Academy of Social Sciences, and the nonofficial Society of Chinese Minority Languages, which play an active part in organizing academic conferences and publishing study and research results. The major publishers are the central and several local Minzu Chubanshe (Publishing House of Minority Nationalities). Three major journals are published by the Institute of Nationality Studies of the Chinese Academy of Social Sciences: Minzu Yuwen (Linguistics and Philology of National Minorities of China), Minzu Yanjiu (Studies in Nationalities), and Minzu Yichong (Translated Works on Chinese Minority Languages by Foreign Authors). Other journals and magazines which carry information or papers on minority language study include Zhongguo Yuwen (Chinese Languages and Linguistics), Minzu Huabao (Nationality Pictorial), and Minzu Tuanjie (Unity of Nationalities). Papers on the subject can also be found in various journals published by language departments of universities.

As summarized by Wang Jun (1981:6) in an article entitled "Some ideas to be discussed on the work of national minority languages", the major tasks of the Chinese linguists at the present stage include the following:

a) the investigation of unstudied/unknown languages, and of the major dialects of minority languages;
b) the study of minority language standardization, e.g., standard pronunciation, standard orthography, and new-word formation;
c) the writing or revision of descriptive grammars and dictionaries, and their publication;
d) the study of minority language instruction and translation;

e) the specific studies of problems of phonology, morphology, and syntax of minority languages;
f) historical and comparative study, and the study of genetic relationships of minority languages;
g) the study of ancient minority language writing systems, if any existed
h) the study of the mutual influences among languages, bilingualism and pidginization;
i) the standard spellings of minority language place names.

Recently, people have become interested in typological study and electronic data processing.

The study of minority languages in China benefits from the abundance of dialectal materials and ancient written records. There are two important aspects in which Chinese linguists would like to concentrate their efforts: the exploration of Chinese in the light of the comparison of Chinese with the other minority languages in China, and the study of linguistic relationships between minority languages spoken in China and languages spoken outside of China.

REFERENCES

Gai, Xingzhi. 1982. Minzuxue Yanjiu zhong de Yuyanxue Fangfa (Linguistic Methods in Ethnological Studies). Yunnan Shehui Kexue (Yunnan Social Sciences) 6.87-90.

Lehmann, W. P. 1975(ed.) Language and Linguistics in the People's Republic of China. Austin: University of Texas Press.

Luo, Changpei, and Fu, Maoji. 1954. Guonei Shaoshu Minzu Yuyanwenzi de Gaikuang (A Survey of the Minority Languages and Writings in China). Zhongguo Yuwen (Chinese Languages and Linguistics) 3.21-6.

Shi, Zhengyi. 1984. Minzu Cidian (A Dictionary on Nationalities). Chengdu: Sichuan Publishing House of Minority Nationalities.

Voegelin, C. F., and F. M. Voegelin. 1977. Classification and Index of the World's Languages. New York: Elsevier.

Wang, Jun. 1981. Some Ideas to be Discussed on the Work of National Minority Languages. Minzu Yuwen (Linguistics and Philology of National Minorities of China) 1.1-7.

Yu, Shichang. 1959. Youguan Woguo Shaoshuminzu Yuyan Xishu de yixie Wenti (Some Problems Regarding the Genetic Classification of Minority Languages of China). Zhongguo Yuwen (Chinese Languages and Linguistics) 2.54-7.

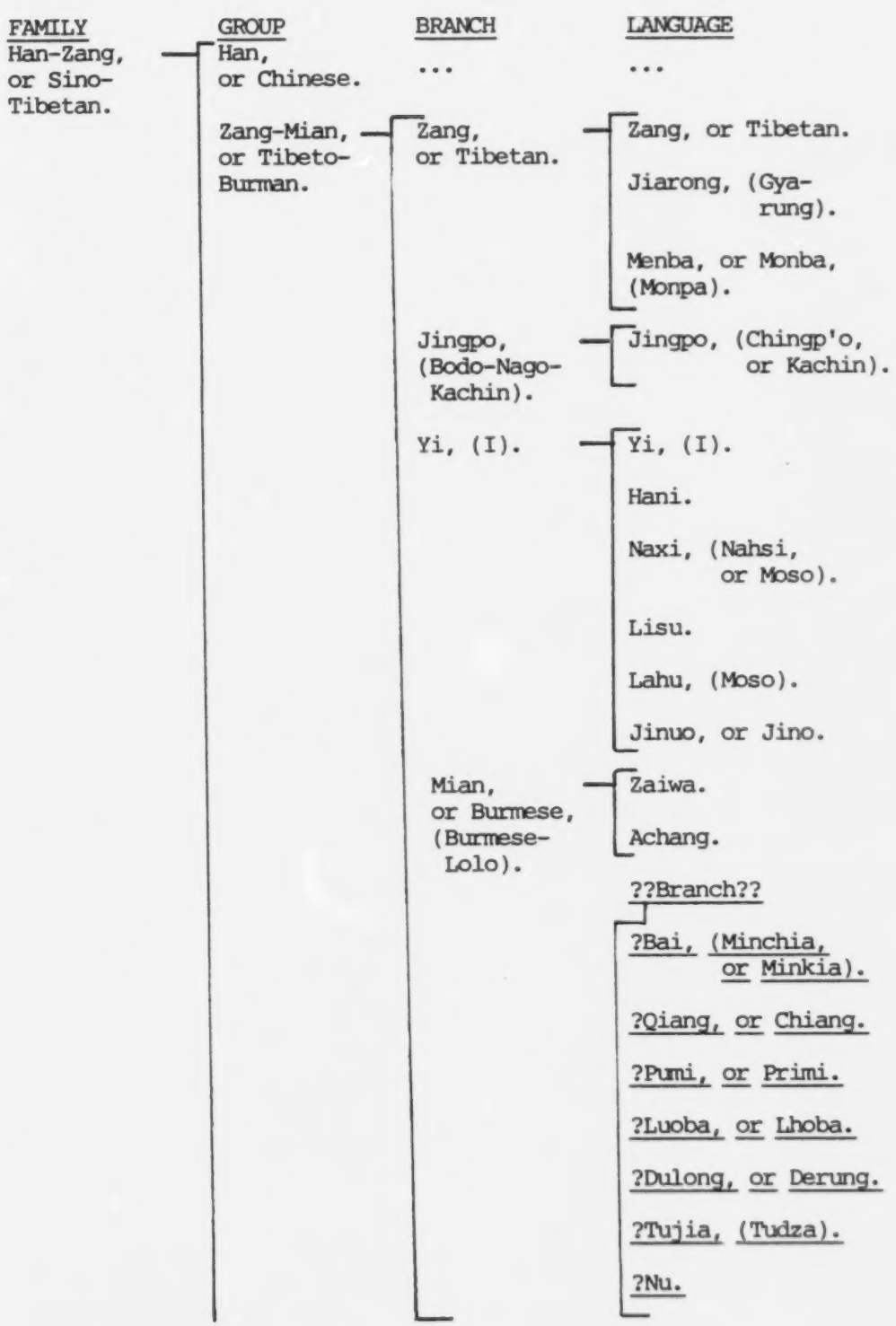
An Index of Chinese Linguistics Papers. 1983. Beijing: Commerce Press.

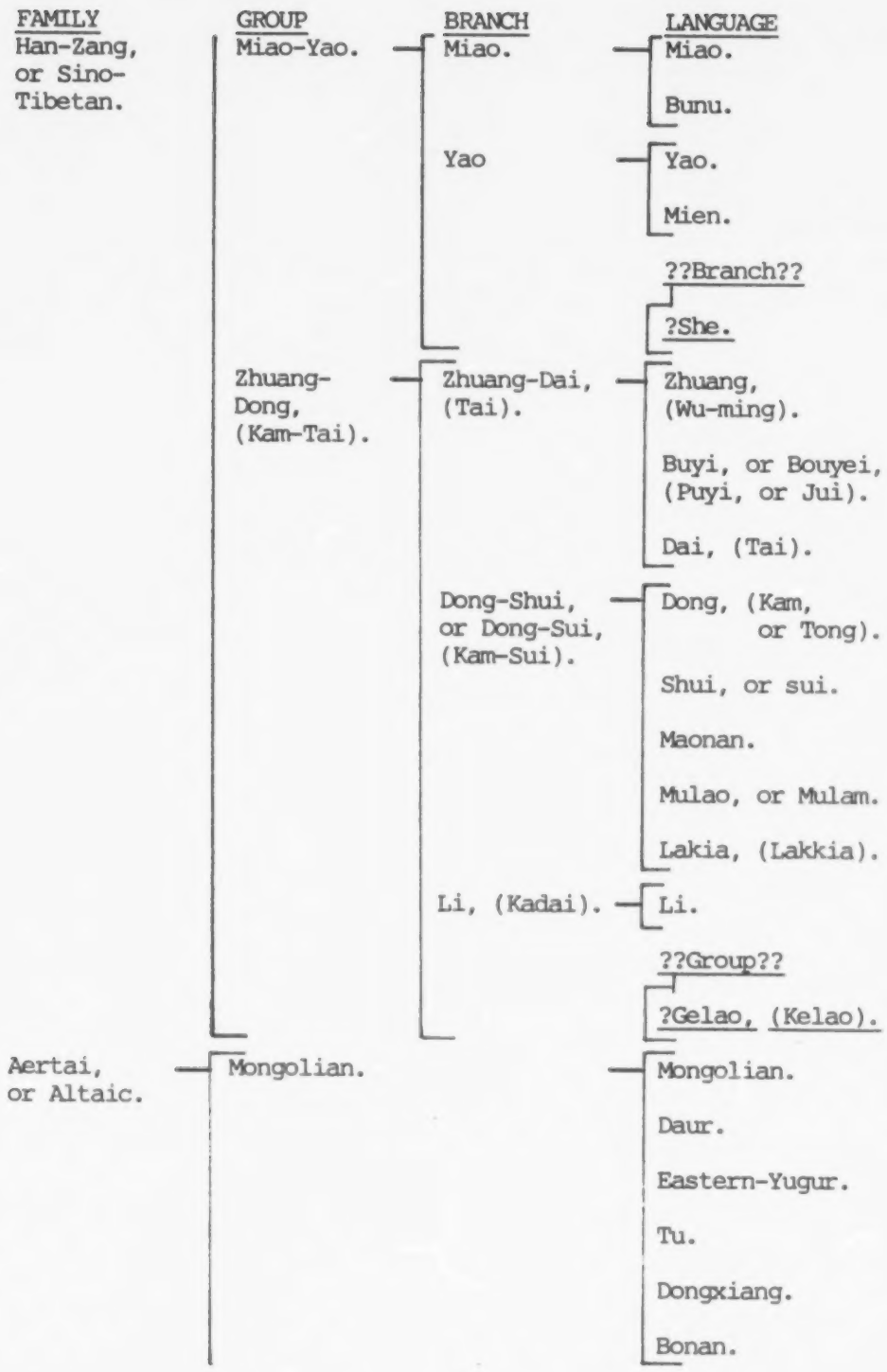
Chinese Encyclopedia: Nationalities. 1986. Beijing: The Publisher of Chinese Encyclopedia.

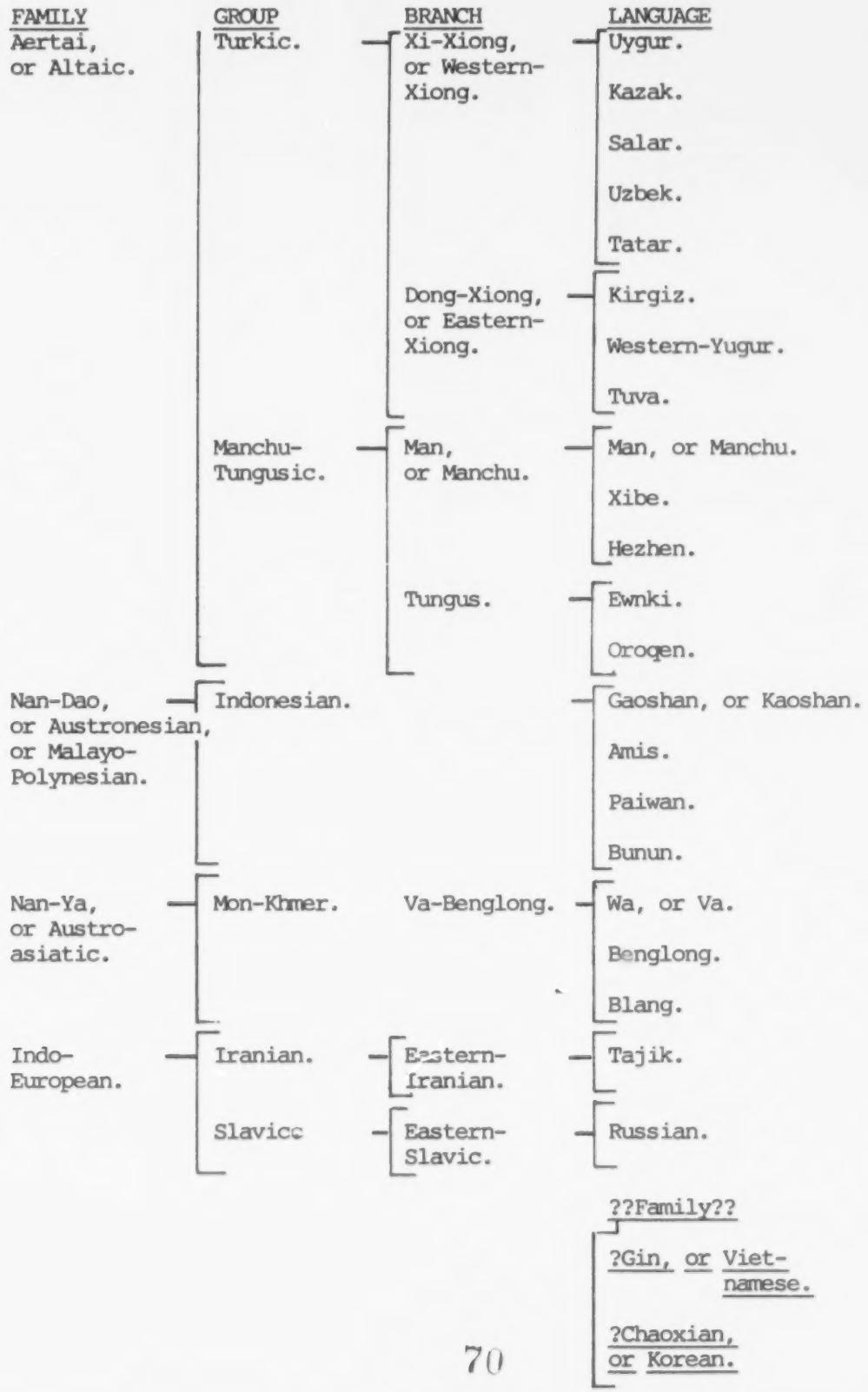
APPENDIX:

THE GROUPING OF MINORITY LANGUAGES IN CHINA

Names of languages used by linguists in China are not placed between parentheses, with Pin-yin first. Those used only in Western literature so far are placed between parentheses.


FAMILY
GROUP
BRANCH
LANGUAGE
Han-Zang, or Sino-Tibetan.
Han, or Chinese.
...
...
Zang-Mian, or Tibeto-Burman.
Zang, or Tibetan.
Zang, or Tibetan.
Jiarong, (Gya-rung).
Menba, or Monba, (Monpa).
Jingpo, (Bodo-Nago-Kachin).
Jingpo, (Chingp'o, or Kachin).
Yi, (I).
Yi, (I).
Hani.
Naxi, (Nahsi, or Moso).
Lisu.
Lahu, (Moso).
Jinuo, or Jino.
Mian, or Burmese, (Burmese-Lolo).
Zaiwa.
Achang.
??Branch??
?Bai, (Minchia, or Minkia).
?Qiang, or Chiang.
?Pumi, or Primi.
?Luoba, or Lhoba.
?Dulong, or Derung.
?Tujia, (Tudza).
?Nu.


FAMILY
Han-Zang, or Sino-Tibetan.
GROUP
Miao-Yao.
BRANCH
Miao.
LANGUAGE
Miao.
Bunu.
Yao
Yao.
Mien.
??Branch??
?She.
Zhuang-Dong, (Kam-Tai).
Zhuang-Dai, (Tai).
Zhuang, (Wu-ming).
Buyi, or Bouyei, (Puyi, or Jui).
Dai, (Tai).
Dong-Shui, or Dong-Sui, (Kam-Sui).
Dong, (Kam, or Tong).
Shui, or sui.
Maonan.
Mulao, or Mulam.
Lakia, (Lakkia).
Li, (Kadai).
Li.
??Group??
?Gelao, (Kelao).
Aertai, or Altaic.
Mongolian.
Mongolian.
Daur.
Eastern-Yugur.
Tu.
Dongxiang.
Bonan.


FAMILY
GROUP
BRANCH
LANGUAGE
Aertai, or Altaic.
Turkic.
Xi-Xiong, or Western-Xiong.
Uygur.
Kazak.
Salar.
Uzbek.
Tatar.
Dong-Xiong, or Eastern-Xiong.
Kirgiz.
Western-Yugur.
Tuva.
Manchu-Tungusic.
Man, or Manchu.
Man, or Manchu.
Xibe.
Hezhen.
Tungus.
Ewnki.
Oroqen.
Nan-Dao, or Austronesian, or Malayo-Polynesian.
Indonesian.
Gaoshan, or Kaoshan.
Amis.
Paiwan.
Bunun.
Nan-Ya, or Austro-asiatic.
Mon-Khmer.
Va-Benglong.
Wa, or Va.
Benglong.
Blang.
Indo-European.
Iranian.
Eastern-Iranian.
Tajik.
Slavic
Eastern-Slavic.
Russian.
??Family??
?Gin, or Vietnamese.
?Chaoxian, or Korean.

LEXICAL FUNCTIONAL GRAMMAR ANALYSIS OF KOREAN COMPLEX PREDICATES

Hee-Seob Kim

Abstract: The structure of complementation in complex predicates in Korean has attracted configurational analysis, specially TG and GB. This paper discusses some problems of those approaches and clarifies the non-con figurationality of Korean by highlightening typical characteristics of Korean syntax. Within the framework of LFG, it is pointed out that syntactic structures such as Equi-NP deletion and raising would rather be specified by 'control-equation' in the functional structure.

Introduction

Using a Lexical Functional framework (Bresnan 1982 et al) this paper examines the sturucture of complementation in complex predicates in Korean. The term, 'predicate', in this context is used to describe both verbs and adjectives which are assumed to consist of semantic predicative argument structures, such as AGENT, PATIENT, THEME, and so on, in their lexical entries.

In section (I), we will discuss the non-configurationality of Korean, following Hale's summarised properties of non-configurational languages (Hale 1982). It will be claimed that in Korean there is no VP node configurationally.

In section (II), based on the discussion in (I) V COMP (verb pharase complement) which is an extremly common phenomenon in Korean predicate structure (Park 1972) is examined. The structures are exemplified as follows[1]:

(1) a. Sae-ka nal-a kan-ta.
bird-NOM fly-COMP go-DSE
'The bird flies away.'

b. Tom-i Susan-il manna-ke to-ass-ta.
Tom-NOM Susan-ACC meet-COMP become-PAST-DSE
'Tom happened to meet Susan.'

c. Younghi-ka alim-il nok-ke ha-ass-ta.
Younghi-NOM ice-ACC melt-COMP do-PAST DSE
'Younghi caused the ice to melt.'

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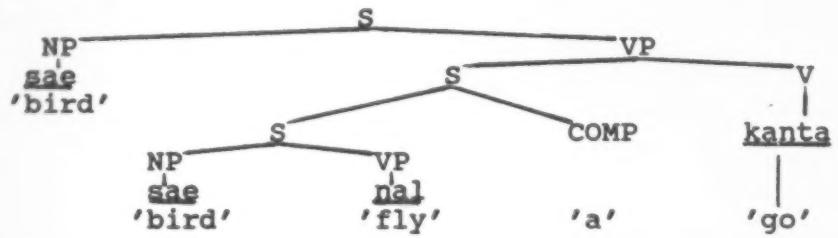
d. na-nin pap-il mak-ci anh-ass-ta.
I-TOP meal-ACC eat-COMP not-PAST-DSE
'I didn't eat the meal.'

e. John-i chaek-il po-ko iss-ta.
John-NOM book-ACC read-COMP be-DSE
'John is reading the book.'

As shown in (1), a complete predicate is structured by employing a COMP such as '-a', '-ke', '-ci', or '-ko'. Park(1972) presented under the standard TG framework (2) a deep structure of (1 a). To give an example of his argument:

(2)



In order to get cross-construction generalizations, such as in (1) and to derive the surface sturcture of (2), the transformationalists have produced such transformations as 'raising', 'equi' etc.[2]

It is not the intention of this paper to enter into analysis of the theoretical bases of the transformational theories (TG and Chomsky's GB) in detail. Rather, it is to show by presenting some c(onstituent)-structures and f(unctional)-structures for the sentences which contain V COMPs how a lexical interpretive grammar (LFG) handles the syntactic phenomena that motivated transformations in Korean predicate structures.[3]

As the basis for argument, some PS rules and basic principles in LFP will be presented following Mohanan (1982) and Kaplan and Bresnan (1982).

I. The VP-node

It is assumed that a linguistic theory must provide mechanisms for the description of all languages. Certain phonological features, syntactic categories, functional arguments, and semantic elements which are necessary and sufficient for a description of the world's languages are termed 'substantive universals'. On the other hand, the

framework of rules and their organization, that is PS rules and transformational rules, are 'fromal universals' (cf. Chomsky 1957, 1965).

The VP node, as a substantive universal, is considered to be important and essential for determining the subject and direct object of a sentence in standard transformational grammar, even if the node is a very suspect category in SOV languages[4] (it goes without saying that VSO languages have no surface VP nodes). For example, let us consider two types of PS rules:

(3) a. S -----> NP VP
VP ----> V NP

b.

The PS Rules of (3) configurationally show the grammatical functions of NPs in sentence structure: the NP immediately dominated by the node S is the subject of the sentence while the NP immediatelly dominated by the node VP is the object of the verb. As a result, according to Chomsky (1965) such grammatical functions as subject, direct object and indirect object are derivative. On the other hand, it is claimed in Relational Grammar (Frantz 1980 etc.) and in LFG (Bresnan 1982 etc.) that those are, in fact, primitive. The weakness of Chomsky's functional notions results from his assumption that 'the symboles S, NP, VP, N, and V have been characterized as grammatical universals' (Chomsky, 1965:73). However, as mentioned above, like most S O V languages, Korean is assumed not to have a VP constituent (Young 1985). Furthermore, Korean is a nonconfigurational language like Japanese and Malayalam whose grammatical relations are encoded in terms of morphological features (case, agreement) (Yong 1985). Given the assumption that subject-of, direct object-of and indirect object-of are universal grammatical relations, in Korean there is no way to represent these structures dependently. The details of cases of grammatical functions will not be discussed here. In this section, we examine the status of the VP node in Korean and provide some syntactic evidence for its nonexistence.[5]

Let us first consider sentences which highlight a typical characteristics of Korean syntax.

(4) a. The gentleman gave that lady a flower.

b 1. ki sinsa-ka ca sukya-eke kkoch-il cu-ass-ta
the man-NOM that lady-DAT flower-ACC give-PAST-DSE
NP 1 NP 2 NP 3 V 4

2. 1 3 2 4
3. 2 1 3 4
4. 2 3 1 4
5. 3 1 2 4
6. 3 2 1 4

(4 b) shows the possible sentence in their diffenent manifestations which could be produced from NP_1, NP_2, NP_3, V. As shown in (4), the NP constituents in a sentence are not restricted to any specific placement; however the verb must always be in the final position.[6] Moreover, the sentences in (4 b) fragmentarily indicate what we have already mentioned, i.e. Korean is non-configurational: the word order is free; it uses rich case system; the verb is complex, consisting of STEM+PAST+DSE. These findings are compatible with the characteristics of non-configurational languages as provided by Hale (1982).[7]

Given this fact, it would not be possible to apply a configurational approach such as TG or EST (Chomsky and Lasnik 1977) to the analysis of Korean sentence structure, since it could not explain various syntactic phenomena in Korean adequately.

There are several reasons for these limitations to the configurational approach with a VP node. First, 'the existence of a VP node would unnecessarily complicate the word order phenomena, obscuring the generalization that it is only the sister constituents directly dominated by S that are order-free' (Mohanan 1982:525). Second, a VP node in Korean grammar would require us to postulate stylistic scrambling rules such as supposed in Chomsky and Lasnik 1977 (even in GB 1981). The problem is that if such a node were postulated, we would limit ourselves in the sense that the organization of the GB grammar requires that stylistic rules and rules of logical from be independent of one another (Chomsky 1981:17). But in Korean surface word order, the output of scrambling would be the input to rules of logical from such as pronominal noncoreference. The noncoreference rule for Korean can be stated as follows:

(5) (Mohanan, 1982:525)

If NP_1 precedes NP_2, and NP_1 is a pronoun while NP_2 is not, then NP_1 and NP_2 are noncoreferential.

Let us consider the effects of scrambling on noncoreference.

(6) a. John-i ki-iy amani-lil poassta.
i i
1 2
NOM GEN mother-ACC saw
'John saw his mother'

b.* ki-iy amani-lil John-i poassta
i i
2 1

As shown in (6), the rule of noncoreference operates upon surface word order. Thus, if it is necessary that stylistic rules do not affect the rules of logical form, then the phenomenon of free word order in Korean must be built into the PS rule instead of being handled in terms of stylistic scrambling.

II. Verbal Compounding

In Korean, verbals (verbs and adjectives) are central to semantic structure.[8] Based on variations in inflections or suffixations, they compose most communicative information, such as TENSE, ASPECT AND MOOD.

One of the patterns which changes the 'verbalness' into 'adverbialization', ' relativization' and 'nominalization', is traditionally called 'Cammpokpap' (qualification rule) (Choi 1929).' All of these rules are assumed to have COMPs in their constructions in a view of TG. In this paper, we will concentrate on adverbialization, which is formed by such morphemes as -a, -ke, -ci and -ko as illustrated in (1), because the adverbialization corresponds to V COMP constructions.

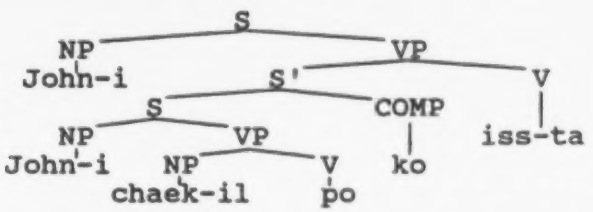
Whereas in traditional grammar these were treated in terms of a verbal morphology something like V1-X-V2 compounding, in TG they are viewed in terms of a syntactic process. As in many other aspects of Korean syntax, studies on complementation have been divided into transformational approaches (Cook 1968, Nam 1973) and phrase-structure approach (Park 1972 etc.). It is not our concern to recapitulate their arguments. Since COMP in not semantically empty, and the choice of COMP largely depends on individual lexical items, as shown in (1), we generally follow the phrase-structure approach in which COMP is a matter of subcategorization rather than transformations (Bresnan 1970). One fairly consistent assumption in TG is the morphologically complex

verbs(e.g., causative, passive, etc.) involve syntactically complex structures in which a matrix verb requires a sentential complement.

So it is claimed that the distinction of deep and surface structures and certain transformations are indispensable in accounting for embedded structures with complex predicates. For illustration, consider the following, which contains COMP-ko in their structure.

(7) a. John-i chaek-il po-ko iss-ta.
'John is reading a book.'

b.



The structure in (7) illustrates that it is an Equi-type sentence. The subject NP of the lower cycle would have to be deleted to arrive at (7 a). Let us take some other examples which show deep structures similar to (7). Note the different case arraies, illustrated by an underline in (8).

(8) a. John-i Mary-ka yeppta-ko saenkakhanta.
NOM -NOM beautiful-COMP think
'John thinks that Mary is beautiful.'

b. John-i Mary-lil yeppta-ko saenkakhanta.
NOM -ACC
'John considers Mary to be beautiful.'

The two NPs with NOMs in (8 a) clearly indicate that the sentence comprises two clauses[*], whereas the case array of (8 b) alludes to a single clause. To support out observation we will utilize the property of word order in Korean, as illustrated by (4). Consider the following in which an adverb pulhaenhaketo, 'unfortunately', is added into the sentence (8 a).

(8a) 1. pulhaenhaketo John-i Mary-ka yeppta-ko saenkakhanta.
2. John-i pulhaenhaketo Mary-ka yeppta-ko saenkakhanta.
3. John-i Mary-ka yeppta-ko pulhaenhaketo saenkakhanta.

* 4. John-i Mary-ka pulhaenhaketo yeppta-ko saenkakhanta.
'Unfortunately John thinks that Mary is beautiful.'

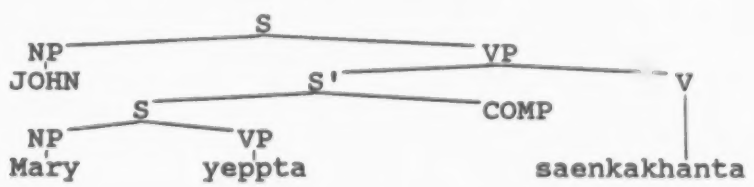
Although there is no overt restriction as regards word order, an adverb of the matrix sentence (verb) could not be placed in the embedded clause, as clearly shown by (8a 4), for the adverb does not modify the embedded verb but rather the matrix verb. Therefore, sentence (8a 4) is not acceptable. What happens if this kind of test is applied to sentence (8 b)?

(8b) 1. pulhaenhaketo John-i Mary-lil Yeppta-ko saenkakhanta.
2. John-i pulhaenhaketo Mary-lil yeppta-ko saenkakhanta.
3. John-i Mary-lil yeppta-ko pulhaenhaketo saenkakhanta.
4. John-i Mary-lil pulhaenhaketo yeppta-ka saenkakhanta.
'Unfortunately John thinks Mary to be beautiful .'

Unlike (8a 4), sentence (8b 4) is considered to be grammatical. The fact that the adverb of the matrix sentence (verb) can be placed between 'Mary-lil' and 'yeppta-ko' indicates that there is no longer a complement sentence and that 'Mary-lil' is a immediate constituent of the matrix sentence.

In comparing the sentences in (8) to those in (7), we can see, as mentioned earlier, that they have similar deep structures but are different in that (7) is an Equi-type and (8) is a Raising-type. The sentences in (8) have the same meaning, even though they differ in the case arraies in terms of case marking rules. Therefore, they might have the following deep structure:

(9)



To get (8 a), case marker insertion is applied to (9). Since NP is a subject in the low cycle-S , a nominative marker '-ka' can be marked. On the other hand, in order to derive (8 b), subject-to-object raising may be applied first, yielding the structure (10):

(10)

Since in (10) 'Mary' is immediately dominated by a VP node, the accusative case marker '-il' is inserted.

It may be claimed that the explanations above using a TG framework contribute to revealing the native speakers' internal knowledge of Korean Grammar in a limited sense. That is, despite differences in surface structures, native speakers of Korean know that the two sentences have the same meaning and that they are related in some way. But if we look at the problem more closely, we can see that TG theory is inconsistent in case assignment, and is unnecessarily complex in Equi NP-deletion, Raising, etc..

For example, consider the case in which an embedded clause takes a transitive verb, given in (11).

(11) a. John-in Tom-i ton-il humchassta-ko mitninta.
-TOP -NOM -ACC stole-COMP believe
'John believes that Tom stole the money.'

*b. John-in Tom-il ton-il humchassto-ko mitninta.
-ACC

In contrast to (8), in which the embedded clause has an intransitive verb and the underlying subject ('Mary') is realized as an object ('Mary-lil') at the surface structure, the underlying subject ('Tom') in (11 b) cannot be assigned the accusative case. In other words, in the TG framework nothing can prevent ungrammatical sentences such as (11 b) from being produced.

It is claimed by Bresnan (1982) that however we may elaborate a theory of TG, there seems to be little hope of constructing a descriptively and explanatorily adequate grammar. In this respect, LFG reorganizes and restructures what has been assumed in the theory of TG. In the following section, LFG is introduced as a new mechanism for syntactic description. We will discuss how verb complementation in Korean can be explained using this theory.

III. Lexical Functional Approach

In the first section, we argued that Korean is a non-configurational language and that instead of accepting the VP hypothesis we should adopt a flat structure to explain various syntactic phenomena such as those related to the freedom of word order. LFG can be easily applied to analysis of the freedom of word order phenomena to the extent that the lexical items can be freely inserted and that their grammatical functions can be defined in a universal fashion at superficial levels of derivations.

It is understood that a linguistic theory must incorporate three independent levels of description schematized as follows (Mohanan 1982:587).

(12) categorial level : phrase markers, case features, etc.
relational level : grammatical relations
thematic level : thematic roles

Following Bresnan (1982), we assume that in LFG, lexical entries specify a direct mapping between semantic arguments and configurations of surface grammatical functions, and that syntactic rules then identify these surface functions with particular morphological and constituent configurations.

Furthermore, 'the constraints on the syntactic mapping problem-creativity, finite capacity, reliability, order-free composition, and universality- impose important limitations on the possible forms of syntactic knowledge representation, ruling out many possible systems of grammar- even apparently descriptively adequate ones- as systems of the mental representation of language' (Bresnan & Kaplan 1982: Introduction). In this respect, it followns that LFG exactly corresponds to Chomsky's original proposal for the goals in the study of language that linguistic theories can only attain explanatory adequacy if they are based on a maximally constrained, psychologically plausible, universal set of general principles.

LFG assigns two levels of syntactic description to every sentence of a language: c-structure and f-structure. C-structure represents the superficial constituency of a sentence, which is phonologically interpreted, and f-structure represents its meaningful grammatical relations, which is semantically interpreted. C-structures are formally quite different from f-structures in that c-structures are defined in terms of syntactic categories,

whereas f-structures are composed of grammatical function names, semantic forms, and feature symbols.

Based on the above background, we can fomulate a set of PS rules that will characterize the clause structure of Korean. As mentioned, Korean is a nonconfigurational language in which grammatical relations are encoded in terms of morphological features (cases). Therefore, partial syntactic encoding which shows a PS rule and F-description would be something like (13):

(13) a. S ----------> XP * V"

b. i. (↓ CASE) = NOM
(↓ SUBJ) = ↑

ii. (↓ CASE) = DAT
(↓ OBJ2) = ↑

iii. (↓ CASE) = ACC
(↓ OBJ) = ↑

The schema (↑ SUB) = ↓ may be read as 'my mother's f-structure's SUBJ is my f-structure's value.' In other words, the mother's variable is the root node's 1-variable. So they represent the f-structure of the sentence as a whole. For illustration, consider the following sentence (14):

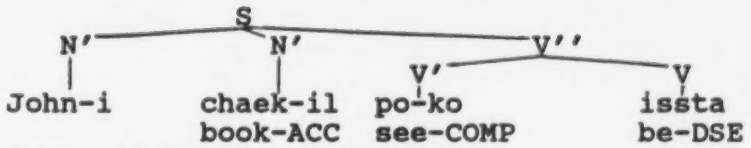
(14) sinsa-ka suknya-eke kkoch-il cuassta
gentleman-NOM lady-DAT flower-ACC gave
'The gentleman gave a lady some flowers.'

An f-structure for (14) would indicate that 'sinsa-ka' is the garmmatical subject, 'suknya-eke' is the grammatical object2 in the sentence and so on. F-structure represents this information as a set of ordered pairs, each of which consists of an attribute and a specification of that attribute's value for this sentence. The following is a plausible f-structure for (14):

(15)
$$\begin{bmatrix} \text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{'SINSA'} \\ \text{CASE} & \text{NOM} \end{bmatrix} \\ \text{OBJ2} & \begin{bmatrix} \text{PRED} & \text{'SUKNYA'} \\ \text{CASE} & \text{DAT} \end{bmatrix} \\ \text{OBJ} & \begin{bmatrix} \text{PRED} & \text{'KKOCH'} \\ \text{CASE} & \text{ACC} \end{bmatrix} \\ \text{TENSE} & \text{PAST} \\ \text{PRED} & \text{'CU <(↑ SUBJ)(↑ OBJ2)(↑ OBJ)>'} \end{bmatrix}$$

We can analyse the V COMPs of the sentences in the same way. Let us consider the so called Equi-type first. The c-structure for (7 a) is provided as (16):

(16)



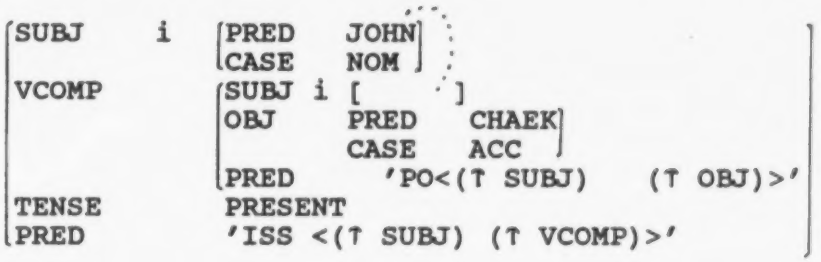
'John is reading a book.'

The lexical entry for 'issta' can be given as follows:

(17) ISSTA : V, (↑TENSE) = PRESENT
(↑PRED) = 'ISS <(↑ SUBJ)(↑ VCOMP)>'
(↑VCOMP SUBJ) = (↑ SUBJ)

With this lexical entry, the f-structure for (17) correctly defines John-i as an argument (agent) of 'PO' in (18).

(18)



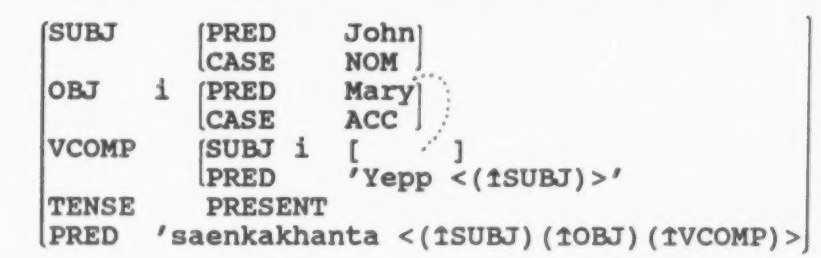
Now, let us see how the Raising-type VCOMP differs from the Equi type. The sentences in (8) are repeated below as (19):

(19) a. John-i Mary-lil yeppta-ko saenkakhanta.
'John considers Mary to be beautiful.'

b. John-i Mary-ka yeppta-ko saenkakhanta.
'John considers that Mary is beautiful.'

(19 a) has the same c-structure as (16), but has a different f-structure. In this case, the object of the matrix verb controls the understood subject NP in the embedded clause. The plausible f-structure of (19 a) is:

(20)

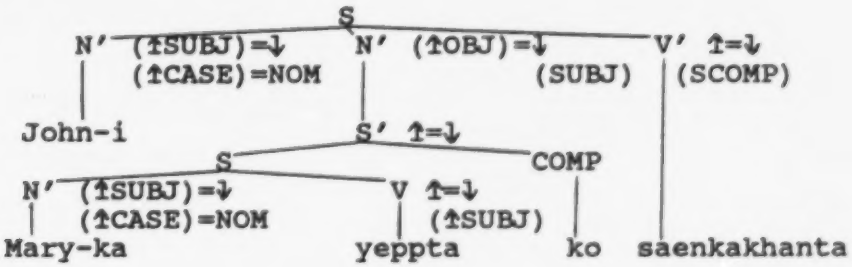


In contrast, (19 b) has quite a different pair of structures. The f-structure of (19 b) is as follows:

(21)
$$\begin{bmatrix} \text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{John} \\ \text{CASE} & \text{NOM} \end{bmatrix} \\ \text{SCOMP} & \begin{bmatrix} \text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{Mary} \\ \text{CASE} & \text{NOM} \end{bmatrix} \\ \text{TENSE} & \text{PRESENT} \\ \text{PRED} & \text{'YEPPTA <(↑SUB)>'} \end{bmatrix} \\ \text{TENSE} & \text{PRESENT} \\ \text{PRED} & \text{'SAENKAKHANTA <(↑SUBJ)(↑SCOMP)>'} \end{bmatrix}$$

The main difference between (20) and (21) is, above all, that (21) has a SCOMP in which the subject (Mary) is assigned as the nominative case (Mary-ka) whereas (20) contains a VCOMP in which the subject (Mary) is controlled by the object argument (Mary) in the main clause, realised as the accusative case (Mary-lil). To observe the difference, the annotated c-structure of (19 b) is depicted below:

(22)

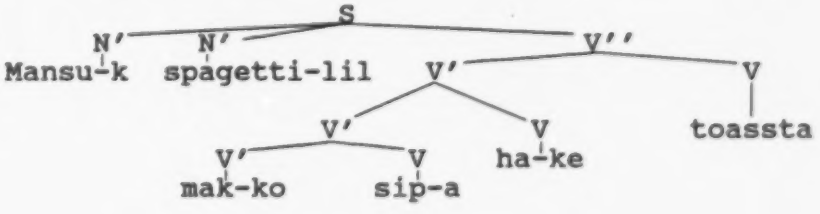


However, the sentential complement is not our main concern here. Rather, let us go back to the V COMP. How can we represent the c- and f-structures in cases where a sentence has more then one complement among -a, -ke, -ci, and -ko? (22) would illustrate such a case:

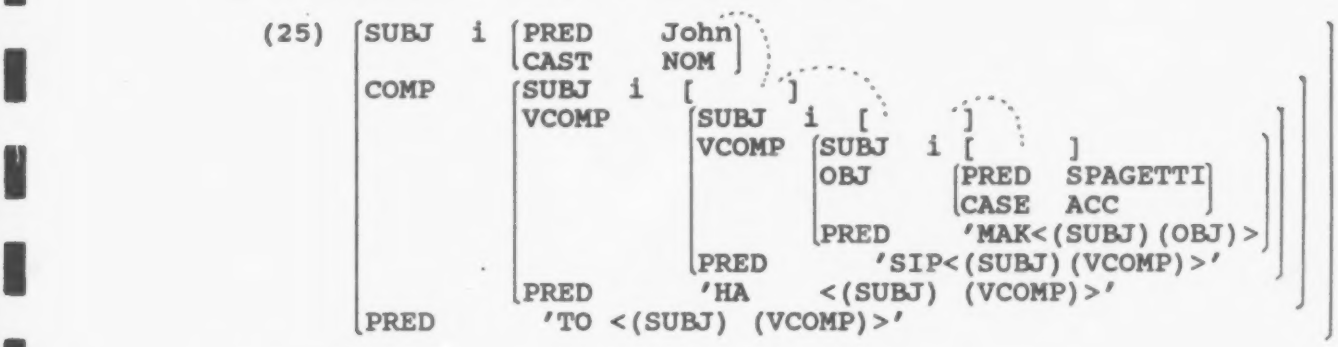
(23) Mansu-ka spagetti-lil mak-ko sip-a ha-ke toassta.
eat want do became
'Mansu began to want to eat spagetti.'

Its c-structure is given below as (24):

(24)



The f-structure for (23) is as follows:



IV. Conclusion

In this paper, we have argued that Korean has no VP node. It was pointed out that verb compounding is very productive in Korean and that traditional and TG approaches to this phenomenon are not successful in revealing a native speaker's knowledge of the language.

As a new means of describing grammar, LFG was introduced. As for sentences which consist of verb complementation, several c- and f-structures were presented. It was also pointed out that syntactic processes such as Equi-NP deletion and Raising may well be specified by 'control equation' in the f-structure. In addition, since predicates in Korean play a major role in syntax, varying their forms, it is our hope to study syntactic properties of predicate structure in view of possible LFG applications more closely and broadly in late studies.

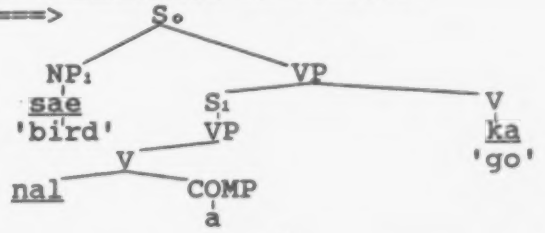
NOTES

1. A list of abbreviations used in this paper is as follows:

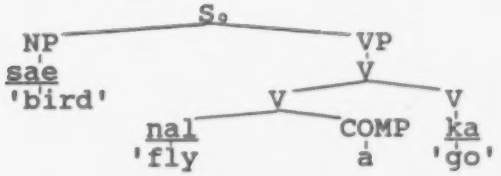
NOM = nominative: -ka/ -i DAT = Dative: eke
ACC = accusative : -il/ -lil GEN = genitive: iy
COMP = complement TOP = topic: -nin/ -in
DSE = declarative sentence ending : -ta

2. In fact, according to Park (1972), the deep structure in (2) is transformed as follows:

Equi-NP deletion ====>



Verb-Raising ====>



3. To sum up briefly, there are three sorts of mechanisms that instantiate 'non-transformations' in LFG (Pinker 1982:660). (i) lexical redunduncy rules such as

Passivization: (OBJ) ----> (SUBJ)
(SUBJ) ----> (BY OBJ)
----> PART = PAST

These rules state that OBJ in a predicate argument structure can be converted to SUBJ and that SUBJ can simultaneously be converted to BY OBJ. (ii) Control equation asserts an equivalence between one of the functions associated with its own predicate and one of the functions associated with the predicate embedded in a complement constituent: (A) 'Irwin tried to leave'. In this example, the lexical entry for 'try' would indicate that its subject is also the subject of its V COMP (to leave). The f-structure (B) would indicate the indentity of two substructures by associating them with the same superscript.

(B)
$$\begin{bmatrix} \text{SUBJ} & [\text{PRED} \quad \text{'IRWIN'}] \\ \text{PRED} & \text{'TRY<(SUBJ), (V COMP)>'} \\ \text{V COMP} & \begin{bmatrix} \text{SUBJ} & [\text{PRED} \quad \text{'IRWIN'}] \\ \text{PRED} & \text{'LEAVE <(SUBJ)>'} \end{bmatrix} \end{bmatrix}$$

(iii) subiacency metavariables to accomplish long distance binding usually attributed to movement transformations.

(A) a. NP ---> NP S'
↓, HEAD MOD (IFIER)

b. NP ---> e
↑

Whenever there are two constituents within a bounded domain of the c-structure, such that one constituent is annotated with ll and the second, the lower one is annotated with ll, and the interpretive procedures link their respective f-structures. In this paper, we are mainly interested in the second mechanism.

4. Schwarts (1972) claimed that SOV languages have no VP node.

5. Radford (1981:69) provided diagnostic guides for determining whether a given set of words is a constituent or not. This list included 'distribution', 'coordination', 'intrusion', 'proform', and 'omissibility'. However, they were originally explored in order to establish a hierachical structure of configurational languages such as English. As far as non-configurational languages are concerned, it may be meaningless to test these criteria. In non-configurational languages, the word order is so free that the constituents can switch around to any place in a sentence. Thus an NP and a V can behave as a single structural unit or as separate units. For example, in sentences (4 b), there is a subject NP between verb and object NPs. If it is the case that these criteria are based on the surface structure, then we would not apply them to establish a VP node. As mentioned earlier, the criteria are not informative for non-configurational languages.

6. Chomsky assumes a modified W* base rule: X ---> W* X, capturing the head final properties of Japanese in GB(1981). I think that it can be assumed for Korean too.

7. Besides what we have mentioned, there are more criteria in Hale 1982:

use of dicontinuous expressions
free of frequent "pronoun drop"
lack of NP movement
lack of pleonastic NPs (like 'it', 'there', 'il')

We have no space in this paper to examine all the properties of a non-configurational language but may safely assume that most of them, except the use of discontinuous, are found in Korean.

8. For semantic trends in studying verbal compounding in Korean, see Abasolo (1977).

9. Examples of these are below:

Relativization

ne-ka cu-n kkoch-in arimtapta.
you-NOM give-COMP flower-TOP beautiful
'The flowers that you gave are beautivul'.

Nominalization

Mike-ka saensum-il muk-ki -nin chaimita.
Mike-NOM raw fish-ACC eat-COMP -TOP first
'It is the first time for Mike to eat raw fish.'

10. When an NP with NOM is preceeded by another NP with NOM or with TOP, it is considered to be a "double subject" construction (cf. Na 1986).

A. na-nin ki-ka kita.
I-TOP height-NOM tall
'I am tall.'

B. nae-ka ki-ka kita.
I-NOM
'I am tall.'

It is not our concern to examine the usage of (A) and (B) i different contexts. We will treat them as the same construction. Thus, (A) is interchangable with (B) without affecting its meaning.

REFERENCES

Abasolo, Rafael. 1977. "Semantic trends in verbal compounding" Papers in Korean Linguistics, ed. by Chin-W. Kim.

Bresnan, J. 1970. "On Complementizers: Toward Syntactic Theory of Complement Types". Foundations of Language, Vol. 8.

Bresnan, J. 1982. "Control and Complement." in The Mental Representation of Grammatical Relations, edited by Bresnan, MIT Press.

-------. 1982. "Lexical Functional Grammar" in The Mental Presentation of Grammaticat Relations, edited by Bresnan, MIT Press.

------- and Kaplan. R.M. 1982. "Introduction." in The Mental Representation of Grammatical Relations, edited by Bresnan, MIT Press.

Choi, Hyun-Bae. 1929. Urimalbon [Our Grammar], Seoul: Jongumsa.

Chomsky, N. 1957. Syntactic Structures. MIT Press.

---------- 1965. Aspects of the Theory of Syntax. MIT Press.

---------- 1981. Lectures on Government and Binding : The pesa Lectures, Fories, Dordrecht.

Chomsky, N. and H. Lasnik. 1977. "Filters and Control." Linguistic Inquiry 8.3.

Cook, Ung-Do. 1968. Embedding Transformations in Korean Syntas, Ph.D dissertation, University of Alberta.

Frantz, Donald G. 1981. "Grammatical Relations in Universal Grammar." IULC

Hale, Kenneth. 1982. "Preliminary Remarks on Configurationality." in Procedings of the New England Linguistic Society, Vol. 12, edited by J. Pestejovsky and P. Sells.

Mohanan, K.P. 1982. "Grammatical relations and clause structure in Malayalam". in The Mental Representation of Grammatical Relations, edited by Bresnan, MIT Press.

Na, Younghee. 1986. "The Conventionalization of Semantic Distinctions." CLS 22 (1986) PART I.

Nam, Ki-Sim. 1973. Korean Grammar, Taegu: Kaemyong University Press

Park, B. S. 1972. A study of Korean Verb phrase and noun phrase complementation with special attention to the verb HA. Ph.D. dissertation of University of Pittsburgh.

Radford, A. 1981. Transformational Syntax. Cambridge University Press.

Schwartz, A. 1972. "The verb constituent of SOV". Working Papers on Language Universal, Vol. 8.

Yong, Chul-Won. 1985. Case relations in some nonconfigurational languages. Ph.D. dissertation of Indiana University.

IN THE SOCIAL REGISTER:
Pronoun Choice in Norwegian and English

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Abstract: Choice of second-person pronouns can shed light on the intersection of language, personality, and culture. In modern Norway a change has occurred in little more than a generation through which the polite forms De, Dem/Dykk, and Deres/Dykkar have been replaced, in all except commercial, governmental, or ultra-polite speech, by the familiar forms du, deg/dæ, and din. In Brown and Gilman's terms, this change indicates that the dimension of solidarity is more important than that of power in modern Norwegian sociolinguistics, the exact opposite of what the case appears to have been with an earlier, similar change in early modern English.

If we accept Peter Trudgill's (1974: 117) capsule definition of diglossia as:

> a particular kind of language standardization where two distinct varieties of a language exist side by side throughout the speech community (not just in the case of a particular group of speakers, such as Scots or Negroes), and where each of the two varieties is assigned a definite social function,

then other phenomena closely akin to diglossia can arise in speech communities where there exists a prestigious standard variety coexisting with numerous regional or social varieties of the language whose speakers refuse to give them up. Norway and the United States are two such speech communities, although the social and linguistic forces have been quite different in the two speech communities.

In the languages of Europe, pronoun choice can be quite revealing sociolinguistically. As Brown and Gilman (1960: 253-254) in their now classic study put it, there is

> a connection between social structure, group ideology, and the semantics of the pronoun, . . . a man's consistent pronoun style gives away his class status and his political views, . . . and a man may vary his pronoun style from time to time so as to express transient moods and attitudes.

This paper is a preliminary sketch of some social and linguistic consequences of, and causes of variation in pronoun choice in Norwegian and English. Though it has received considerable attention, I shall omit discussion of "singular they," partly because such a

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body of work has been developed by Bodine, Fretheim, Mills, and MacKay that the sex-indefinite third-person pronoun merits a paper by itself, and partly because MacKay's (1981) study merits more careful thought and criticism than I can give it at this time. Accordingly, I shall focus my description on the second-person pronoun in modern Norwegian, Danish, and American English.

The linguistic facts, intuitions, and observations that this paper is based on constitute a mixed bag. Data on Norwegian come from writings by Haugen, from textbooks from courses on Norwegian for foreigners, from direct questioning of native-speaking Norwegian language consultants during the year (1977-78) I was a Fulbright Lecturer at the University of Tromsø, from covert observation of everyday speech in Troms Fylke, from my own experience first as a learner and later as a fluent speaker of Norwegian as a second language, and from folk-linguistic comments volunteered by native speakers, most of whom were not involved in the academic study of language.

Information on Danish pronoun usage comes from a severely limited period of observation in Denmark and questioning of Danish linguists.

Data on English come from my own native-speaker intuitions, from six years' experience in teaching the history of the language, and from 13 years as a participant-observer of pronoun choice in southwestern Ohio.

I must stress the opportunistic--as opposed to systematic--nature of the language samples reported on. The tentative, preliminary nature of these observations can hardly be overemphasized.

The overall linguistic situation in Norway serves as background to these comments on pronoun choice. Modern Norwegian is descended from the Old Norse (or West) branch of the North Germanic languages. Consequently, Norwegian is related to English, though not as closely as are Dutch or German (Pyles 1971). Relationships between English and Norwegian are rendered somewhat complicated by the extensive borrowing of Old Norse words into Old English during the time of the Viking invasions from the late 700's to 1066. One important consequence of the Viking incursions was the introduction, gradual spread, and eventual dominance of the Scandinavian third-person plural pronouns (see Tables 2 and 3 below). The Old Norse language reached its zenith between 1150 and 1350. But from 1380 onward, Norway was increasingly tied economically, politically, and culturally to Denmark, and the Norwegian language entered a period of eclipse. A consequence of the physical and cultural fragmentation and isolation among Norwegians was the development of rather extreme dialect differences.

By the time Norway achieved independence in 1905, a Dano-Norwegian variety had grown up in bureaucratic circles in Oslo and

other cities. Norway's independence was achieved gradually between 1814 and 1905, and as part of a national Renaissance, the rural dialects were codified into a standard language, largely as a result of the efforts of Ivar Aasen. In 1885 Parliament accepted Aasen's New Norse (nynorsk) as an official language, and in 1890 the first primary school using it as a means of instruction opened, although the majority of Norwegians, most of whom by that time lived in the cities, spoke (and continued to speak) either Dano-Norwegian, since renamed bokmål, or the urban popular dialects of Oslo that are in many ways closer to bokmål than to nynorsk (Vikør 1975).

Essentially, these conditions prevail in Norway. There are two national standard written languages, bokmål and nynorsk, both of which must be mastered to a certain extent by all school children. All important documents--textbooks, university examinations, tax forms, etc.--must be available in both languages. Actors, broadcasters, etc., must use one or the other standard language (Vikør 1975).

Alongside the two written languages exist a myriad of local dialects. In many rural areas extreme differences exist between dialects separated by only a small distance. On the island of Tromsøy, for example, an island less than 5 miles long and not over 2 miles broad at its widest, the word for 'snow' changes from sne in the north end of the island to snø at the south end. Furthermore, in the cities, especially Oslo, the popular dialects of the working class differ as much among themselves as they differ from the rural dialects.

Conflict over which forms of the language are to be used in which circumstances is hardly a dry academic matter. Lars Vikør (1975: 17) recounts that

> a frequently quoted anecdote from around 1920 tells about a Russian revolutionary visiting Oslo, where he sees a bloody street fight raging. He asks a passerby: 'Well, how is the revolution going here in Norway?' Answer: 'Right now, we're fighting over how to spell it.'

Battles over which language--bokmål, nynorsk, a fusion of bokmål and nynorsk (samnorsk), the popular urban dialects, or the rural dialects --is to be the Norwegian language continue even today. At the University of Tromsø it is impossible to find an Ikke Røking or Ikke Røkning 'no smoking' sign that has not been defaced to read Ikkje Røyking or Ikkje Røykning, with the note Ikkje Dansken scribbled at the bottom. Similarly, next to each light switch at the University is an adhesive decal with a picture of men and women wearing sweaters each of which has on it one of the seven or eight variants of the first-person singular pronoun all engaged in trying to topple a boulder with jeg, the bokmål word for 'I' over a cliff. On the decal is the slogan Tal dialekt, skriv nynorsk 'Speak dialect; write New Norse'.

The tenacity with which Norwegians cling to their dialects and

the importance they attach to language variation are reflected in the law. More than 6 decades before the Ann Arbor decision said that American schools had to take into account the linguistic background of the pupil, the Norwegian Parliament passed a law in 1917 prohibiting teachers from "correcting" the speech of students--though all students have to learn to read and write in both standard languages--and guaranteeing the rights of pupils to speak their dialects in the schools. As the Norwegian historian, Halvdan Koht (1873-1965) put it:

> the children in the towns shall be allowed to use their own language in school. The teacher shall no longer be allowed to "correct" the lad who speaks the language he has been taught by father and mother--if he does not make mistakes in it. He shall no longer be taught that father and mother use a "plebian" language, he shall not despise his own heritage, he shall not be deprived of the confidence in himself, so that he is afraid to play his due part in society (Vikør 1975: 107-108).

When one considers the tenacity with which speakers maintain their dialects, it is surprising to see that a change in second-person pronoun usage has swept through nearly all of Norwegian society, through speakers of nearly all varieties, in a little over a generation.

Like most Indo-European languages in Western Europe, both standard Norwegian languages differentiate between a familiar and a polite (formal) form of the second-person pronoun. This is expecially common in the singular. Trudgill lists familiar and polite second-person singular forms for French: tu-vous, Italian: tu-Lei, Spanish: tu-Usted, German: du-Sie, Dutch: jij-u, Swedish: du-ni, Norwegian: du-De, Greek: esi-esis, and Russian: ty-vy. In most cases, there are relatively complete paradigms, with forms for nominative, dative, and genitive cases, and in some languages even more cases. It appears that originally the familiar pronouns were the normal second-person singular forms. The polite forms developed, in most cases, from either second-person plural or third-person forms (Trudgill 1974). Familiar second-person forms are usually abbreviated as T and polite forms as V, based on the familiar and polite forms, respectively, in French.

Brown and Gilman, in their pioneering analysis, The Pronouns of Power and Solidarity, established two dimensions that govern pronoun choice. As they put it (Brown & Gilman 1960: 257-258):

> The original singular pronoun was T. The use of V in the singular developed as a form of address to a person of superior power. . . . Differences of power cause V to emerge in one direction of address; differences not concerned with power cause V to emerge in both directions.

> The relations called older than, parent of, employer of, richer than, stronger than and nobler than are all asymmetrical. . . . The relation called 'more powerful than', which is abstracted from these more specific relations, is also conceived to be asymmetrical. The pronoun usage expressing the power relation is also asymmetrical or nonreciprocal, with the greater receiving V and the lesser T.

The other dimension in pronoun choice is solidarity, which Brown and Gilman say characterizes 'relations which are symmetrical; for example, attended the same school or have the same parents or practice the same profession . . . . The solidary T reaches a peak of probability in address between brothers . . .' (Brown & Gilman 1960: 258). The situation has rarely been stable, however. For example, a power relation obviously obtains between parent and child, but there is also a strong solidarity relation present. As Brown and Gilman put it, 'Well into the nineteenth century the power semantic prevailed and waiters, common soldiers, and employees were called T while parents, masters, and elder brothers were called V' (Brown & Gilman 1975: 259).

Table 1 indicates that both standard Norwegian languages follow the normal practice laid out in Brown and Gilman. Furthermore, the second-person plural, which appears to neutralize the familiar-polite distinction, does so by extending, especially in nynorsk, the second-person singular polite forms to the plural.

	bokmål	nynorsk	Tromsdialekt
	subjective case		
first person singular	jeg	eg	Æ
second person singular	du	du	du
second person singular formal	De	De	
third person masculine	han	han	han
third person feminine	hun	ho	ho
third person common	den		
third person neuter	det	det	det
first person plural	vi	vi	vi
second person plural	dere	de	de
third person plural	de	dei	de/dei
	objective case		
first person singular	meg	meg	mæ
second person singular	deg	deg	dæ
second person singular formal	Dem	Dykk	
third person masculine	ham	han	ham
third person feminine	henne	ho	ho
third person common	den	henne	
third person neuter	det	det	det
first person plural	oss	oss	oss
second person plural	dere	dykk	dokker
third person plural	dem	dei	dem/dei

	possessive case		
	bokmål	nynorsk	Tromsdialekt
first person singular	min	min	min
	mitt	mitt	mitt
second person singular	din	din	din
	ditt	ditt	ditt
second person singular formal	Deres	Dykkar	
third person masculine	hans	hans	hans
third person feminine	hennes	hennar	hennes
third person common	den		
third person neuter	det		
first person plural	vår	vår	vår
second person plural	deres	dykkar	dokker
third person plural	deres	deira	deres/deira

Table 1. Personal Pronouns of Modern Norwegian
(After Haugen (ed.) 1974)

As recently as 1937, Haugen (1937: 43-44) says that

> the forms du and dig are used in good society only when addressing a child, a member of one's family, or an intimate friend; usually only to a person whom one might address by his first name. The forms De and Dem are used in all other circumstances. In country dialects, however, this distinction is not made and everyone is usually addressed as du.

Since Haugen wrote, however, a change in pronoun choice has spread throughout Norwegian society, a change that does not yet appear to have spread far into Denmark, and a change which has gone in a direction opposite to that which occurred much earlier in English.

Let us now review the history of English personal pronouns. As one can see from Table 2, the Old English pronoun paradigm was quite elaborate compared to today's. Some aspects of pronoun choice which have since passed out of use are the three-way marking of number--singular, dual, and plural--in first and second persons and the presence of accusative case forms for all persons and numbers. Even a casual inspection shows that there was no T-V distinction in the second person. Instead, we find the second-person singular--du, din, de, and dec, with the occurrence of the dative form de in the accusative case probably signalling that the accusative case was already disappearing--and the second-person plural--ge, eower, eow, and eowic or eow.

Table 3 shows the pronoun paradigm for the heavily creolized (doubly creolized by Viking Old Norse and Norman French) language we call Middle English. Although there appear to be a great many

	nom:	gen:	dat:	accus:
1st pers sg	ic/I	mīn	mē	mec/mē
2nd pers sg	dū	dīn	dē	dec/dē
3rd pers sg masc	hē	his	him	hine
3rd pers sg fem	hēo/hīe	hire	hire	hēo/hīe
3rd pers sg neut	hit	his	him	hit
1st pers dual	wit	uncer	unc	uncit/unc
2nd pers dual	git	incer	inc	incit/inc
1st pers plural	wē	ūser/ūre	ūs	ūsic/ūs
2nd pers plural	gē	ēower	ēow	ēowic/ēow
3rd pers plural	hēo/hīe	hira	him/heom	hēo/hīe

Table 2. Personal Pronouns of Old English
(After Cassidy & Ringler (eds.) 1971)

variants of each form, and although interesting changes are taking place in third-person singular feminine and third-person plural, the general effect, compared to Old English, is one of simplification: the accusative case and the dative case have merged into a common objective case, and the dual number has been lost.

	subjective:	objective:	possessive:
1st pers sg	ich/ic/ik/I/y	mē/me	mīn/mī/mi
2nd pers sg	þū/ thōu/tōu	þē/thee/tē	þīn/þī/thȳ/thy
3rd pers sg masc	hē/he/hee/hā/a	him/hine/hin	his/hise/hies/ hys/hüs
3rd pers sg fem	hēo/heo/hue/hō/ hē/he/ha/hī/hi/ hō/chō/schō/ schē/sche/shē/ she	hire/hir/hure	hire/here/hir/ her
3rd pers sg neut	hit/it/a	hit/it/him	his/hise/hies/ hys/hüs
1st pers plural	wē	ūs/ōūs	ūr/ūre/ōūr/ōūre
2nd pers plural	ȝē/yē	eu/ōū/ȝōw/ ȝōū/yōū	ȝūr/ȝūre/yōūr/ yōūre/ōūre
3rd pers plural	þai/þay/thai/ þei/þeȝ/hȳ/hy/ hēo/hei/hei/ hō/ho/hē/he/ ha/a	þaim/thaim/ thame/heom/ hem/hī/hise/ his/hes/hies/ es/hem/hȫm/ ham/him	here/her/hȫr/ heore/hare/hire/ hüre/þeȝre/þayr/ thair/thār

Table 3. Personal Pronouns of Middle English
(After Mosse 1968)

It is in the Middle English period that the second-person plural came into use as a set of polite forms, and the older second-person singular forms were reserved for use between intimate equals. The archaic early modern English system, with thou, thee, and thine as T forms and ye, you, and your as both V forms and plural forms,

seems to have developed after the Norman conquest.

But this T-V system did not survive for long in some dialects of Middle English. Although the T-V system has persisted down to the present day, in self-consciously archaic verse, the King James Bible, and the pronoun usage of Quakers, there is evidence that it waned quite early in the developing London standard dialect of the emerging English middle class.

Table 4 contains the second-person singular system that actually appears to have been used in the letters of the Paston family. In Table 4 are examples of the pronouns used by Paston family members to the nobility, by the nobility to the Pastons, by husbands to wives, by wives to husbands, etc. Examples of parent-child and child-parent letters follow the same pattern. No one says thou, thee, or thine to anyone else, at least not in writing. I must stress that these are samples. Conclusive statements on the Pastons' pronouns wait for a concordance that would show every second-person pronoun used in the letters, which fill 2 volumes. But the system in Table 4, identical to the system of modern English except for the since discarded subjective form ye, appears to have been that used in the popular dialects of the 15th-century middle class.

	subjective:	objective:	possessive:
second person sg	ye/ȝe	yow/yov/you/ȝow/ȝou	your/youres/ȝowre

Table 4. Second Person Singular Pronouns, ca. 1450 (From Davis (ed.) 1971)

The Pastons' pronoun system and the modern system (Table 5) indicate how much the English second-person pronoun has been simplified. Today, standard English has only two forms in the second person: you and your(s). The case system has been reduced,

	subjective:	objective:	possessive:
1st pers sg	I	me	my /mine
2nd pers sg	you	you	your/yours
3rd pers sg masc	he	him	his
3rd pers sg fem	she	her	her/hers
3rd pers sg neut	it	it	its
1st pers plural	we	us	our/ours
2nd pers plural	you/you-uns/ yous/youse/ you-all	you/you-uns/ yous/youse/ you-all	your/yours/ you-uns'/ you-uns's/ yous's/ you-all's
3rd pers plural	they	them	their/theirs

Table 5. Personal Pronouns of Modern English

much more so than for other personal pronouns, to a marked

(possessive) form your(s) and an unmarked form you. All distinctions of number have been lost in second-person. While some popular dialects maintain you was - you were and (more rarely) you is - you are distinctions, the standard dialect has evolved to the point where there is a mismatch between syntax--you is always plural--and semantics --you sometimes refers to a single individual.

The interesting thing is that the T-V distinction, when it collapsed, was replaced not by the intimate solidarity forms thou, thee, and thine but rather by the distant power forms ye, you, and your. By early modern English, the 8 second-person singular and plural forms of Old English had collapsed to 3--the Old English second-person plural nominative, dative, and genitive, respectively--forms ye, you, and your--for both singular and plural--among equals and unequals, among family and strangers.

In Norway in approximately the third quarter of the 20th century, the pronoun system was also simplified in the second-person. But in Norway, as opposed to English, the solidarity dimension prevailed. Brown and Gilman say that after the 19th century in Europe this appears to have ben the case. But most speech communities have maintained at least some of the T-V distinction. In Norway, the use of De, Dem, and Deres from bokmal and De, Dykk, and Dykkar from nynorsk has passed almost completely out of everyday speech. Speakers use du, deg, and din or ditt to everyone. According to native speakers from northern Norway, the disuse of the polite forms began in the north and has spread southward until it has prevailed nearly everywhere. As a sidelight, I must add that I was addressed as De in a conversation with the mother of a friend, a woman from a southern rural region. But I must also add that I remarked to myself that the woman's use of the polite forms seemed archaic and stilted to me at the time. Native northerners later corroborated my intuitions. Furthermore, my own use of local Tromsdialekt, particularly the first-person singular AE, instead of bokmal jeg or nynorsk eg, and the second-person plural form dokker, while it aroused a sort of amused tolerance among my Norwegian colleagues at the University, enabled me to establish a close rapport with some of my acquaintances in our apartment building, closer contact, in fact, than that which is usually established among Norwegians who do not work together or go to school together.

While attending the Fourth Nordic Linguistics Conference in Denmark, I noticed that a barber to whom I had been using the familiar forms while he cut my hair consistently used the polite to me. (I hesitate to speculate on what he must have thought of my speech.) At the conference I queried my Danish counterparts on what second-person pronouns they would use. They admitted to some confusion and hesitation, but eventually at least a dozen of them agreed that they would use the polite forms to the manager of the inn at which the conference was being held and to any other older person or any other person obviously possessing high status. The Danish linguists also agreed that they would use the familiar forms

among themselves and to any other people of their age.

In Norway, however, the situation has evolved much further. Sentences A through E in Example 1 on Table 6 are taken from an invented dialogue between two strangers that is used in a Norwegian textbook for foreigners. Sentence 1.F. was spoken by Mette, age 8, in Kroken (Tromsdialekt). The sentences in Example 2, Table 6, also taken from the textbook, represent an area where the polite forms still survive, official transactions. In fact, my Norwegian instructor characterized such use of polite forms as selskapspraket 'business speech' or 'company speech'. An advertisement for a bank, seeking to persuade one to open a savings account, used De, Dem, and Deres. Tellers in the same bank used and received du, deg (Tromsdialect dae), etc., in all instances.

1.	A.	Er du utlending?	'Are you-2nd-sg-informal (a) foreigner?'
	B.	Ja, jeg er utlending.	'Yes, I am (a) foreigner'
	C.	Han er norsk.	'He is Norwegian'
	D.	Hun heter Randi Berg.	'She is called Randi Berg'
	E.	Er det brøren din?	'Is that brother-the-sg yours-2nd-sg-informal?'
			= 'Is that your brother?'
	F.	Kor er bilen dokkers?	"Where is car-the-sg yours-2nd-plural'

2. - Har De en ledig plass?
   - Hvor langt skal De?
   - Jeg skal til Harstad. . . .
   - De kan få en køye på første klasse.

   (Both speakers use 2nd-sg-formal)

Table 6. Pronoun Usage in Modern Norwegian
(After Arnestad & Hvenekilde 1974)

To summarize, when the English second-person pronouns were simplified, the simplification favored the power dimension over the solidarity dimension. An independent, and much later simplification in Norwegian appears to have favored the solidarity dimension. Further evidence that solidarity is the key factor in Norway comes from the fact that the change appears to have spread very quickly through nearly all the speech community, a speech community that considers one's dialect worth protecting by law and worth fighting for (literally). The almost universal acceptance of this change is thus all the more noteworthy.

But there is evidence that English, too, has felt the influence of the solidarity dimension with regard to the second-person pronoun.

In the first place, the survival of nonstandard second-person plural forms--you-all, you-uns, and youse--probably reflects the semantic and syntactic impoverishment that has resulted from reducing

the entire second-person paradigm to 2 forms. Charles Fillmore has restated a linguistic truism: "if a language has a lexical item, a part of our understanding of a text containing it is an understanding of the culture or world in which the classifications the word implies are sensible" (Fillmore 1976: 27). Clearly, the concepts carried by nonstandard second-person plural pronouns are important to speakers.

Linguists residing in Cincinnati are fortunate because the city lies in a rich area of social, ethnic, and regional dialect overlap. The city is just within the northern limits for you-all (Marckwardt 1957; Kurath 1949). My own local consultants from as far north as Middletown usually use you-all when addressing two or more people (observation, not elicitation). Directly to the east of the city from the vicinity of Ironton on eastward into Pennsylvania and northern West Virginia the form you-uns is common. It is not uncommon within 50 miles of Cincinnati to be addressed, when in a group, as you-uns. It is also not uncommon to hear the more northerly (and eastern) form youse in the city. In the course of less than an hour one day, I was addressed (again, as a member of a group) as you-uns, youse, and you-all (and you, it must be added) by several of my neighbors in Clifton Heights. Besides a large black community, Cincinnati includes one of the largest urban Appalachian communities in the north. Its status as a major migration conduit and stopping point--and I would interject here that the migrations of Americans in the 1930's, 40's, 50's, 60's, and 70's constitute some of the largest migrations in the history of the planet--make the city a rich dialectological vein that has not yet been seriously mined or assayed.

I would like to close this paper by suggesting that the special survival of second-person plural forms in American English represents, not just a semantic need speakers feel, though it does represent that, but rather a triumph of the solidarity dimension in pronoun choice. Most urban users of you-all, youse, and you-uns are sufficiently bidialectal to use you exclusively when the occasion calls for it. The use of second-person plural persists as a way of establishing group identity and solidarity. Such pronoun choices are as important in the inner city as are comparable dialectal choices in the fishing villages and industrial cities of Norway, though Americans seldom articulate the importance of pronoun choice on the solidarity dimension to themselves or to linguists.

REFERENCES

Arnestad, Inger Helene, & Anne Hvenekilde. 1974. Snakker du norsk? Oslo: Friundervisningens Forlag.

Bodine, Anne. 1975. Androcentrism in Prescriptive Grammar: singular 'they', sex-indefinite 'he', and 'he or she'. Language in Society 4: 129-146.

Brown, Roger, & Albert Gilman. 1960. The Pronouns of Power and Solidarity. Style in Language, ed. by Thomas A. Sebeok. Cambridge, MA: MIT Press. Pp. 253-276. Reprinted in Readings in the Sociology of Language, ed. by Joshua A. Fishman. The Hague: Mouton, 1968. Pp. 252-275.

Cassidy, Frederic G., & Richard N. Ringler (eds.). 1971. Bright's Old English Grammar & Reader, 3rd edn. New York: Holt.

Fillmore, Charles J. 1976. The Need for a Frame Semantics within Linguistics. Statistical Methods in Linguistics. Stockholm: Skripton. Pp. 5-29.

Fretheim, Thorstein. Mimeo. On the Abolishment of Sex-Indefinite 'he' (preliminary version).

Friedrich, Paul. 1972. Social Context and Semantic Feature: The Russian Pronominal Usage. Directions in Sociolinguistics, ed. by John J. Gumperz & Dell Hymes. New York: Holt. Pp. 270-300.

Haugen, Einar I. 1937. Beginning Norwegian. New York: F.S. Crofts.

_____. 1974. Norwegian-English Dictionary, New & Enlarged American Printing. Madison: University of Wisconsin Press.

Kurath, Hans. 1949. A Word Geography of the Eastern United States. Ann Arbor: University of Michigan Press.

Marckwardt, Albert H. 1957. Principal and Subsidiary Dialect Areas in the North-Central States. Publications of the American Dialect Society 27: 3-15. Reprinted in Readings in American Dialectology, ed. by Harold B. Allen & Gary N. Underwood. New York: Appleton-Century-Crofts, 1971. Pp. 74-82.

Mills, Carl. 1978. Linguistic Metatheory: My Dialect - Your Dialect and Acceptability Judgments. Papers from the Fourth Scandinavian Conference of Linguistics, ed. by Kirsten Gregersen, Hans Basbøll, & Jacob Mey. Odense: Odense University Press. Pp. 401-406.

Mossé, Fernand. 1968. A Handbook of Middle English, trans. by James A. Walker. Baltimore: The Johns Hopkins Press.

Paston Letters and Papers of the Fifteenth Century, ed. by Norman Davis. 1971. 2 vols. Oxford: Clarendon Press.

Pyles, Thomas. 1971. The Origins and Development of the English Language, 2nd edn. New York: HarBraceJ.

Trudgill, Peter. 1974. Sociolinguistics: An Introduction. New York: Penguin.

Vikør, Lars S. 1975. The New Norse Movement. Oslo: Forlaget Novus.

DIPHTHONGIZATION, SYLLABLE STRUCTURE, AND THE FEATURE [high] IN HMU

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Abstract: Examination of syllable structure in the Hmongic language, Hmu, leads us to posit two rules with the following properties: (1) vowel assimilation to a following consonant, (2) vowel assimilation to a preceding consonant, and (3) assimilation with respect to the feature [high]. In general, our analysis leads us to conclude that the SPE feature [high] is useful for describing the functions of both vowels and consonants in the process of Hmu diphthongization. There are, however, several unanswered questions about [high], especially in its interaction with [round] and [back].[1,2]

Description of the Language

Hum (also called Qiandong Miao, Southeastern Guizhou Miao, Eastern Miao, Miao du Sud-est, Kanao, Pho, Hei Miao, Black Miao, and Black Hmong) belongs to the Hmongic (Miao) branch of the Hmong-Mien (Miao-Yao) language family of southern China and mainland Southeast Asia. The Hmong language, spoken by many refugees in the United States, is about as closely related to Hmu as English is to German. Hmong and Hmu are etymologically the same word (Purnell 1970: Appendix, p. 129; Wang 1979: 27, 129).

Hmu is one of the two official languages of the Southeast Guizhou Miao-Dong Autonomous District in Guizhou Province in southwestern China and spills over into adjacent parts of Guangxi and Hunan. In addition, Hmu speech islands are reported from southwestern Guizhou and from Laos (Esguirol 1931; Miao Language Team 1962; Purnell 1970; Haudricourt 1971; Lemoine 1972). The Miao Language Team (1962) says that there are approximately 900,000 speakers of Hmu. The number is probably greater now.

Our analysis refers to the dialect of Hmu spoken in the town of Yanghao in the Southeast Guizhou Miao-Dong Autonomous District and is based entirely on data presented in Wang (1979).[3] Yanghao belongs to the Northern dialect of Hmu. Hmu standard orthography (Guizhou Minzu Chubanshe 1958) is based primarily on Yanghao but with some compromises in the direction of other dialects so that it lacks certain consonants found in Yanghao.

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Hmu is close to being a canonical monosyllabic language: most words are one syllable long, there is little or no affixation, and syllable boundaries are clearly marked. Moreover, the range of syllable structures is quite limited, all syllables being CV, CVV, or CVC[4], as in the following examples[5] (page numbers refer to Wang 1979):

[pi^{33}] 'we' (23, 130), [pɛ^{35}] 'full' (23, 174), [pə^{55}] 'to repay a debt or obligation' (25, 159), [pa^{33}] 'thigh' (23, 141), [pu^{33}] 'to know' (23, 160), [tɔ^{33}] 'deep' (51, 150), [tei^{13}] 'which' (61, 167), [təu^{44}] 'tree' (10, 66, 191), [mhen^{33}] 'flea' (27, 176), [paŋ^{35}] 'to shoot' (23, 177), [poŋ^{44}] 'air' (24, 287).

A syllable onset[6] can consist of any consonant, and a syllable peak can consist of any vowel or diphthong, but certain vowels and diphthongs are in complementary distribution depending on the preceding consonant. This complementarity is the topic of this paper and we will return to it for a fuller discussion in a moment. Syllable codas are extremely restricted: only [n] and [ŋ] are allowed; they are in complementary distribution ([n] after front vowels, [ŋ] after back vowels), and they occur only after mid and low vowels. Such restrictions on syllable codas are typical of Hmongic languages (see Purnell 1970; Wang 1979), and, in fact, a limited inventory of codas is an East and Southeast Asian areal phenomenon, although the severity of the limitation differs from one language group to another, the Hmongic languages being near the most restricted end of the range.

The Yanghao dialect of Hmu has the following consonants:

	Labial	Apical	Prepalatal	Velar	Uvular	Glottal
OBSTRUENTS						
Stops (vl)						
Unaspirated	p	t	ʈ	k	q	ʔ
aspirated	ph	th	ʈh	kh	qh	
Affricates (vl)						
unaspirated		ts	tʂ			
aspirated		tsh	tʂh			
Fricatives						
vl unaspirated	f	s	ʂ			h
vl aspirated	fh	sh	ʂh	xh		
voiced	v	z	ʐ	ɣ		

	Labial	Apical	Prepalatal	Velar	Uvular	Glottal
SONORANTS						
Lateral						
vl unasp		l̥	ʎ̥			
vl asp		l̥ʰ	ʎ̥ʰ			
voiced		l	ʎ			
Nasal						
vd unasp	m	n	ɲ	ŋ		
vl aspriated	m̥ʰ	n̥ʰ	ɲ̥ʰ			

A striking feature of this system is that stops, affricates, fricatives, laterals, and nasals all have contrasting aspirated and unaspirated series. Although we have not ourselves had the opportunity to hear Hmu, Wang's description is quite clear on this point, and such a pervasive use of contrastive aspiration does not surprise us, for it is quite common in Hmongic and other East and Southeast Asian languages to find aspiration and other state-of-the-glottis parameters (murmur, creak, co-articulated glottal closure, etc.) playing an important role.

Manner of articulation is not relevant to our topic. For the Hmu point of articulation contrasts we propose the following SPE features:

	Labials	Apicals	Prepalatals	Velars	Uvulars	Glottals
vocalic	-	-	-	-	-	-
consonantal	+	+	+	+	+	-
anterior	+	+	-	-	-	-
coronal	-	+	+	-	-	-
high	+/-	-	+	+	-	-
low	-	-	-	+	+	-
back	-	-	-	+	+	-

Although we suspect that glottals might be better characterized as [+consonantal] we have followed SPE (p. 307) in writing them as [-consonantal] since this does not affect the problem under discussion. Our specifying labials as [+/-high] , however, requires comment. The effect which labials have on following vowels in Hmu suggests that

before high vowels they may be pronounced with an anticipatory raising of the body of the tongue and should therefore be characterized as [+high] before high vowels and as [-high] elsewhere.

In open syllables Hmu has six vowels as follows:

	front unrounded	back or central unrounded	back rounded
high	i		u
mid		ə	
low	ɛ	a	ɔ

After apicals, uvulars, and [h], the non-low vowels [i] and [ə] are replaced by the corresponding mid-to-high diphthongs [ei] and [əɯ]. For example, [tei] occurs but not *[ti], e.g., [tei^{13}] 'which' (Wang 1979: 61, 167) and [təɯ] but not *[tə], e.g., [təɯ^{44}] 'tree' (Wang 1979: 10, 66, 191).

The glottal stop behaves like [h] in its effect on [ə]: there is [ʔəɯ] but not *[ʔə] (Wang 1979: 10-11). But the glottal stop does not cause [i] to diphthongize: we get [ʔi], e.g., [ʔi^{33}] 'one' (Wang 1979: 120, 123) but not *[ʔei]. We hope that as more information on Hmu becomes available, an explanation for the behavior of the glottal stop will emerge. For the present we will set the glottal stop aside as an unsolved problem. Henceforth, we will use the term "glottal" to refer only to [h].

With final nasals we have only three vowels:

	front unround	back unround	back round
mid	en		oŋ
low		aːn	

We posit the following underlying vowel system:

	i	ɛ	ɯ	a	u	ɔ
high	+	-	+	-	+	-
back	-	-	+	+	+	+
round	-	-	-	-	+	+

Three surface realization rules are necessary to go from these underlying representations to the surface phonetics.

(1) Although Wang does not discuss this explicitly for the Yanghao dialect of Hmu, it is normally the case in languages of East and Southeast Asia that vowels in open syllables, unless otherwise

noted are long. We can assume this to be true in Hmu. In order to account for the diphthongal realizations of [i] and [ə] we will write long vowels as geminates: [ii], [ɯɯ], etc. Then diphthongization can be described simply as a lowering of the first segment.

(2) Underlying /ɯ/ is realized phonetically as a mid vowel which Wang writes [ə]. On the basis of what we know about languages from this part of the world, we suspect that this vowel is back of central and could also be written [ɤ] (cf. Henderson 1975). Similarly, we suspect that the diphthong which Wang writes [əɯ] could also be written [ɤɯ]. In the related dialects with which one of us (Strecker) has worked (White Hmong and Green Hmong of Thailand and Laos) this diphthong is [ɤɯ]. Such a diphthong, by the way, also occurs in certain Tai dialects (Gedney 1972) and, outside of Asia, in the type of English spoken in and around Cincinnati, Ohio, e.g., in smoke [smɤɯk] (Lasher 1981). On the other hand, Wang says explicitly that [a] in open syllables is a low central vowel (before [ŋ] we have back [ɑ]).

We do not know why underlying /ɯ/ should lower to [ə] or while /i/ and /u/ remain high, but the same change happens in certain Tai dialects spoken in the same general area (Gedney 1972).

(3) There are only three vowels before the nasal codas. We will treat these syllables as CVN, and posit the underlying vowels as /i/, /u/, and /a/. We then need two low-level rules of phonetic detail:

(a) /i/ and /u/ become mid before nasals:
(b) the nasal coda is alveolar after [e] and velar after [o] and [ɑ]:

$$[+\text{nasal}] \longrightarrow [\alpha\,\text{back}] \;/\; [\alpha\,\text{back}]\ ____$$

The three vowels occurring before nasals are phonetically different from any of the vowels in open syllables. With which vowels should they be identified? The low back vowel [ɑ] is presumably to be identified with the low central vowel [a] of open syllables, but what about [e] and [o]? Are [en] and [oŋ] underlyingly /iN/ and /uN/ with a rule which lowers high vowels to mid before nasals, or are they underlying /ɛN/ and /ɔN/ with a rule which raises low vowels to mid before nasals? If the latter were the case, we would expect this rule to apply also to [ɑn], raising it to *[ɔŋ]. This does not occur, so we adopt the former solution: /iN/ and /uN/. This is a satisfactory solution in any case because we shall see in the next section that Hmu also has another rule which lowers high vowels to mid.

The Hmu Diphthongization Rule

We have already seen that after apicals, uvulars, and glottals,

the high unrounded vowels, which we can now write as /ii/ and /ɯɯ/, lower the first segment. The diphthongization of /ɯɯ/ is described explicitly by Wang (pp. 10-11) and the diphthongization of /ii/ can be seen in Wang's copious lexical data in which what he writes as [i] and [ei] are in clear complementary distribution. To account for this lowering, we write the following rule:

(1) $\begin{bmatrix}+\text{high}\\-\text{round}\\+\text{vocalic}\end{bmatrix} \longrightarrow [-\text{high}] \;/\; \begin{bmatrix}-\text{high}\\-\text{vocalic}\end{bmatrix} ____ \begin{bmatrix}+\text{high}\\-\text{round}\\+\text{vocalic}\end{bmatrix}$

Labials do not trigger diphthongization. Therefore, we hypothesize that before high vowels, labials are pronounced with an anticipatory raising of the tongue, so that they are [+high].

The Hmu Raising Rule

Examination of Wang's lexical data reveals a second complementarity which we have not yet discussed. The high front vowel [i] occurs after prepalatals and velars but not after apicals and uvulars, whereas the low front vowel [ɛ] has the reverse distribution. Both vowels occur after labials. Examples include (page numbers refer to Wang 1979):

[i]	[ɛ]
[pi^{33}] 'we' (23, 130)	[pɛ^{35}] 'full' (23, 174)
[ti^{44}] 'to wear bracelets' (71, 155)	[tɛ^{33}] 'son' (51, 173)
[ki^{33}] 'horn' (101, 174)	[qɛ^{33}] 'star' (103, 174)

No examples of either [i] or [ɛ] after [h] occurr in Wang's material.

We account for this complementarity by positing the following rule:

(2) $\begin{bmatrix}-\text{high}\\-\text{back}\\+\text{vocalic}\end{bmatrix} \longrightarrow [\pm\text{high}] \;/\; \begin{bmatrix}+\text{high}\\-\text{vocalic}\end{bmatrix} ____$

This rule in its present form seems to claim that some examples of [i] are underlyingly /ɛɛ/, whereas others, presumably, are underlyingly /ii/. We have no evidence for such a claim, and are only attempting to state a constraint on possible Hmu syllables. Perhaps one of our readers can suggest a better formalization. Another problem is that this rule raises the whole peak (/ɛɛ/ $\longrightarrow$ /ii/), whereas our diphthongization rule only lowers the first segment. Why should this be, and what is the most economical way to formalize it?

Since both [i] and [ɛ] occur after labials we need to

hypothesize that labials have an anticipatory raising of the tongue before [i] and can therefore be characterized as [+high] in that position, whereas before [ɛ] they are [-high]. In other words, whereas with non-labials, the height of the consonant conditions the height of the vowel, with labials it is the other way round, and labials in Hmu are underlyingly unspecified for height. Although all examples of [i] after [+high] consonants could, if we wished, be derived from underlying /ɛɛ/, we must set up an underlying /ii/ vs. /ɛɛ/ contrast to account for the [ei] vs. [ɛ] contrast after [-high] consonants.

Some readers may wonder why we do not set up an underlying contrast between [+high] and [-high] labials. We could then write

/pjɛɛ/ ⟶ [pi]
/pɛɛ/ ⟶ [pɛ]

and so forth. But such an underlying contrast between high and non-high labials would have a very defective distribution compared to other height contrasts. For example, the [+high] prepalatals and velars contrast with the [-high] apicals and uvulars before /ii/ and /ɯɯ/, but only [+high] labials occur in this position (page numbers refer to Wang 1979):

[+high]		[-high]	
/pjii^{33}/	[pi^{33}] 'we' (23, 130)	*/pii/	*[pei]
/tii^{44}/	[ʈi^{44}] 'to wear bracelets' (71, 155)	/tii^{13}/	[tei^{13}] 'which' (51, 167)
/ki^{33}/	[ki^{33}] 'horn' (101, 174)	/qii^{33}/	[qei^{33}] 'chicken' (108, 135)
/pjɯɯ^{55}/	[p ə^{55}] 'to repay' (25, 159)	*/pɯɯ/	*[pəɯ]
/ʈɯɯ^{55}/	[tɵ^{55}] 'a step' (72, 151)	/tɯɯ^{44}/	[təɯ^{44}] 'tree' (10, 66, 191)
/kɯɯ^{31}/	[kə^{31}] 'back' (111, 158)	/qɯɯ^{33}/	[qəɯ^{33}] 'crop of a bird' (11, 108, 190)

Again, prepalatals and velars contrast with apicals and uvulars before /aa/ but only one set of labials, presumably -high , occurs in this position:

[+high]		[-high]	
*/pjaa/	*[pja]	/paa^{33}/	[pa^{33}] 'thigh' (23, 141)
/ɳaa^{13}/	[ɳa^{13}] 'to rest on something' (80, 128)	/naa^{13}/	[na^{13}] 'to lay (eggs)' (68, 133)

/kaa^{33}/ [ka^{33}] 'to fry' (101, 122) /qaa^{44}/ [qa^{44}] 'to crow' (109, 146)

In other words, [+high] and [-high] labials are in complementary distribution, whereas for other consonants height is contrastive. Therefore, we regard Hmu labials as underlyingly unspecified for height and assimilating in height to the following vowel. Thus we treat [pi] as underlying /pii/, with the height spreading from the vowel to the labial, and [pɛ] as underlying /pɛɛ/. [ti] could be underlyingly either /tii/ or /tɛɛ/: we have no evidence for deciding. *[tɛ] is blocked by rule (2) which would change any underlying /tɛɛ/ to [ti].

We have shown that the SPE feature [high] is a valid and useful feature for describing both vowels and consonants, but we have also raised some questions about this feature. Why is it that only [-round] vowels are subject to the diphthongization rule, and only [-back] vowels are subject to the raising rule? Is there some sort of connection among the features [round], [back], and [high]? Notice also that we have posited two rules, operating from opposite ends of the syllable, that change a high vowel to a mid vowel: the lowering rule before nasal codas and the diphthongization rule. Is there some way to combine these two rules into a broader generalization about Hmu syllable structure?

NOTES

1 An earlier version of this paper was translated by Xiang Rizheng and published in Chinese in Minzu Yuwen (August 1987): 34-40.

2 Strecker would like to thank Wáng Fǔshì for his help and encouragement in the study of Hmongic languages. The errors are our own. We would also like to thank Brenda Johns for encouragement, comments, and suggestions.

3 Wang (1979) is a historical-comparative study and includes only Yanghao words which have cognates in other Hmongic dialects. It is possible that some of the sequences of segments which do not occur in Wang's material do occur in Chinese loanwords in other non-inherited vocabulary. If so, then our analysis would apply to the native component of Yanghao phonology only (c.f., Pike and Fries 1949).

4 Wang treats syllable initial glottal stops as predictable so that he analyzes a syllable like [ʔɛ^{44}] 'to do' as having the

underlying form /ɛ^{44}/ (V). But since glottal stop sometimes has the same effect on the following vowel as does [h] and other consonants, we will treat it as a consonant, hence /ʔɛ^{44}/ (CV).

5 Following Wang, we use IPA for vowels and consonants. Hmu also has eight tones, here transcribed with superscript numbers. In the Yanghao dialect they are: mid level [^{33}], high level [^{55}], high rising [^{35}], low level [^{11}], mid-high level [^{44}], low rising [^{13}], high falling [^{53}], low falling [^{31}]. The low level and low rising tones are accompanied by a murmured release ("voiced aspiration") of the initial consonant so that, for example, [mɛ^{13}] 'face' would in a more narrow transcription be written [mʱɛ^{13}]. Tones play no part in the problem discussed in this paper.

6 For discussion of the terms "onset," "peak," and "coda" see Sloat, Taylor, and Hoard (1978).

REFERENCES

Chomsky, Noam, and Morris Halle. 1968. The Sound Pattern of English. New York: Harper & Row.

Esquirol, J. 1931. Dictionnaire 'ka nao - francais et francais - 'ka nao. Imprimerie Societé des Missions Étrangères. Hong Kong.

Gedney, William J. 1972. A Puzzle in Comparative Tai Phonology. Tai Phonetics and Phonology, ed. by Jimmy G. Harris and Richard B. Noss. Bangkok: Central Institute of English Language, Office of State Universities. Pp. 52-57.

Guizhou Minzu Chubanshe [Guizhou People's Press]. 1958. Qiandong Fangyan: Hmub - Diel Jianming Cidian (Chugao) [Hmu - Chinese Pocket Dictionary: Southeast Guizhou Dialect].

Haudricourt, André G. 1971. Les langues miao - yao. Asie Du Sud-est et Monde Insulindien. Bulletin du Centre de Documentation et de Recherche (ce DRASEMI), Equipe Atlas, Ou en est l'atlas ethnolinguistique? (fasicule 1), École Pratique des Hautes Études (VIe section) et Centre National de la Recherche Scientifique. Vol. II, no. 4.

Henderson, Eugénie J.A. 1975. Phonetic Description and Phonological Function: Some Reflections upon Back Unrounded Vowels in Thai, Khmer and Vietnamese. Studies in Tai Linguistics in Honor of William J. Gedney, ed. by Jimmy G. Harris and James R. Chamberlain. Bangkok: Central Institute of English Language, Office of State Universities. Pp. 259-270.

Lasher, William E. 1981. Speaking of Language. Cincinnati Enquirer Magazine (Nov. 29): 61.

Lemoine, Jacques. 1972. Un village hmong vert du haut laos. Paris: École pratique des hautes études, Editions du Centre National de la Recherche Scientifique, 15, quai Anatole - France - 75700.

Miao Language Team. 1962. A Brief Description of the Miao Language. Originally appeared in Chinese in Zhongguo Yuwen 111: 28-37. English translation by Chang Yü-hung in Miao and Yao Linguistic Studies, ed. by Herbert C. Purnell, Jr. (1972). Southeast Asia Program Data Paper 88. Ithaca: Cornell University Department of Asian Studies.

Pike, Kenneth L., and C.C. Fries. 1949. Coexistent Phonemic Systems. Language 26: 29-50.

Purnell, Herbert C., Jr. 1970. Toward a Reconstruction of Proto-Miao-Yao. Ph.D. dissertation, Cornell University.

Sloat, Clarence D., Sharon Henderson Taylor, and James E. Hoard. 1978. Introduction to Phonology. Englewood Cliffs, NJ: Prentice-Hall.

Wáng Fǔshì. 1979. Miáoyǔ Fāngyán Shēng Yùn Mǔ Bǐjiào (The Comparison of Initials and Finals of Miao Dialects). Paper presented at the 11th Annual Conference on Sino-Tibetan Languages and Linguistics, Paris. In Chinese with English summary.

A TRANSITIONAL ORTHOGRAPHY FOR NORTHERN CANADIAN NATIVE LANGUAGES

Paul Proulx

Abstract: A phonemic orthography poses serious problems for students from oral cultures, in part due to the very structure of such orthographies and in part due to negative transference from English spelling habits. A syllabic orthography minimizes the structural problems at the level of decoding, but is an obstacle to morpheme recognition and hence grammatical analysis. Early exposure to syllabics, followed by a gradual shift to a phonemic Roman alphabet, may be the most advantageous approach to Native literacy where grammatical analysis is one of its aims.

The central role of a language in defining and expressing social identity makes it the keystone of any programme of cultural preservation, and a prime tool of cultural understanding. It contains information related to a people's prehistory, social organization, art, psychology, and ecological awareness. In addition, it is itself in its structure an expression of a unique manner of organizing sensory data, and thus linking the individual to external reality. In short, it contains within itself nearly all that makes the people who speak it distinct from those of other societies. But while it is the main expression of cultural - and indeed subcultural - identity, language paradoxically has the equally important function of expressing the shared identity of the human race. For languages not only differ from one another, giving each its unique structure, they also share a large number of striking similarities based on the universal properties and tendencies of human language. In these shared features, the languages of the world tell us much about who we are relative to the other animate beings of the planet.

Hence if the function of a Native Studies programme is to provide an understanding of who Native people are, as distinct from other members of the larger society, Native languages are the key. And if it is further desired to make clear the equally important shared identity of human beings of all societies, it again is a vital tool. Little wonder then that the importance of Native languages to Native studies is so widely recognized, and that so much effort has gone into teaching them in this context.

Nevertheless, the teaching of Native languages has been beset

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with a variety of serious problems, leading to burnout in both teachers and students. I have discussed some of these elsewhere (Proulx 1986, 1987a, 1987b, Ms1, Ms2), and suggested approaches to dealing with some of them. Here I would like to consider a purely pedagogical question: how best to introduce literacy skills. My own experience is with Algonquian languages, but much of what I have to say probably applies to Inuktitut and Dene as well.

There are 3 main writing traditions in Algonquian, which we may call scientific, folk, and syllabic. There is little to recommend folk orthographies (based on English spelling habits): they obscure analysis, have high rates of phonetic ambiguity, and their use has been more limited than the other two. (But they do have one strong point, which is attractive to beginning students: they do not involve new spelling habits.) The real choice is between the other two: syllabics, which is in accord with cultural tradition, and phonemic Roman, which opens the door to scholarly work.

The Oral Culture Hypothesis.

In the case of young children and others who have not yet learned to read English, there is much to recommend syllabics. They are in widespread use among the Cree, and learning them is in accord with cultural traditions. Hence, their use early in language learning would be in accord with building on the student's strengths, and would help avoid culture conflict. As long as literacy is aimed only at the basic skills of reading and writing at the community level, syllabics seem fully adequate.

There is also compelling evidence to suggest that syllabaries are more easily learned than alphabets by those with no previous literacy experience. First, Burnaby (1985:108-112) quotes Eleanor Gibson to the effect that for small children: 'phonemic invariance can not be extracted from a smaller speech sample than a syllable', and points out that it is well established that children are better able to deal with syllables than phonemes, and that it is confusing for a student if the orthography in use segments oral speech into different units from those she perceives.

If this is because children have oral thought patterns, should it not also be true of adults from oral cultures? The historical success of syllabic writing systems among Amerindians has often been remarked (e.g., Walker 1984:163), and certainly supports this hypothesis. [In this respect, even recently literate adults may retain the thought patterns of oral culture, as Murdoch (1985:132) has pointed out.]

The main difference between oral and literary traditions is that in the former all information must be remembered, and remembered in

full detail. Whatever is forgotten (by everybody) is lost, and impossible to recover. The finest and most valuable oral composition is gone with the last echoes of its delivery, unless it is possible for someone to remember it. If only a fragment is recalled, only a fragment survives. This is a major obstacle to the accumulation of knowledge, and oral cultures respond in three main ways: (a) by storing vital survival information in the minds of nearly every member of the culture, (b) by making as much learning as possible nonverbal, and (c) by building all complex verbal learning around mneumonic devices.

Epithets, motifs, and stereotyped episodes are typical devices used for expanding memory, especially when information is not put in poetic form. When the amount of material involved is great and narrative prose is required, these larger units are resorted to like parts of a prefabricated house which needs only assembly. Hence, the same ones recur as needed in a host of otherwise independent stories.

Because memory is limited, and knowledge constrained by those limits, it is efficient to manipulate material in large chunks such as phrases and paragraphs and leave the lower levels of composition to tradition. It is well known that we can hold about 5 to 9 discrete bits of information in our short term memory at a time (generally 7). Presumably, then, an oral presentation with up to that number of novel ideas can be remembered, and no more. For in an oral culture, there is no road to long term memory (knowledge) but via short term memory.

What is striking to me about the more successful Native writing systems is that they are almost always syllabic. The 13 letter Micmac alphabet is an isolated exception: the Cherokee, Inuit, Fox, Ojibwa, Cree, and some Dene used a syllabary. Moreover, it is not for want of understanding the principle of the alphabet: the Cree syllabary, for example, has symbols for each of the vowels and consonants alone (used respectively at the beginning and end of syllables). Indeed, Cree can be perfectly well written using only these 16 alphabetic characters - yet Crees learn another 44 to represent CV sequences.

It seems truly amazing that a largely oral people, for whom writing is a difficult task, should learn an extra 44 characters when 16 suffice. However, a clue as to why is provided by comparing 4 transcriptions of a common Cree greeting: ᑕᐧᓯ, ta:nsi, 74 61 3A 6E 73 69, 00101110 10000110 01011100 01110110 11001110 10010001. The first is the product of a transitional oral culture, the second of our own chirographic one, the third is the old hexadecimal code of primitive computers, and the last the ASCII version of binary code (used in modern computers). Clearly, as memory capacity increases so does the length of the written word - while the number of characters used decreases.

Comment hardly seems necessary. Just as the units manipulated in oral compositions are higher level ones than is the case in literary

works, so too oral culture favors the manipulation of higher level phonological units. It is a whole learning strategy involved here, a habitual mode of thought, a traditional way of knowing: evidently only higher level units are handled by short term memory - lower level ones are stored as units in long term memory.[1]

If members of oral cultures are especially disinclined to low level structural analysis, as their literary conventions suggest, syllabics should pose less of a problem for them than alphabetic writing: the syllable is a higher level unit than the phoneme.

Finally, the usefulness of syllabics is supported by the statistics on illiteracy among the Japanese versus the Americans: less than one percent of the former (who use syllabic writing) but about 20 percent of the latter cannot read.

The situation is different for the mature university student, already literate in English. Most of the pedagogical and reference materials are written in scientific orthographies, as are several fine collections of texts. Moreover, phonemic orthographies are the easiest to use when analysing structure. Typically, Cree stems end in consonants, and suffixes begin in a vowel. Thus, most morpheme boundaries divide a CV sequence, which would be written with one syllabic character. This obscuring of morpheme boundaries is especially unfortunate since an orthography that clearly reveals the morphological features of a language is thought to be more efficient for experienced readers (see Burnaby 1985:111). For the university student, with whom we would like to explore its structure and its cultural implications, and read longer texts at the higher speeds that permit better comprehension, mastery of an alphabetic transcription is a great advantage.

Unfortunately, the orthographic conventions which ultimately simplify reading and analysis are initially very confusing to those lacking in linguistic sophistication --- largely because they conflict with English spelling habits. Discussion of the principles of articulatory phonetics and transcription is helpful (see appendix A), but leaves some major problems.

The Transitional Orthography Hypothesis.

In the remainder of this paper I will propose the hypothesis that the main advantages of each of these types of transcription can be incorporated into a transitional orthography for use by Native students in university --- whether or not they have previous knowledge of syllabics --- and that this transitional orthography will then facilitate the gradual acquisition of Roman orthography.

It has been my consistent observation in the course of teaching scientific Roman orthographies to native speakers of Cree and Ojibwa that the most confusing task for them is learning to write the vowels, since their use in phonemic Roman orthography is very different from their various inconsistent uses in English orthography - and hence the learning transfered from the one situation to the other is inappropriate (i.e., there is negative transference). There are serious problems with some of the consonants in some of the orthographies, but these are minor in comparison.

At the same time, there is much justification to the contention that, as a whole, there is positive transference from writing English to writing the Native languages in Roman orthography: the letters are the same, and, in the case of the consonants, so are many of their sounds. One does not have to begin from scratch, as in Syllabics. The problem area is principally the vowels.

If one were to grade the difficulty of writing consonants and vowels in the Roman and Syllabic characters in say Ojibwa, for example, I think one would easily conclude that for the bilingual: (a) the Roman consonants are generally easiest (with positive transference), (b) the 4 Syllabary characters for initial vowels the next (with no transference), (c) the remaining Syllabic characters as a group a bit harder because of their large number, and (d) the Roman vowels hardest (due to persistent negative transference).

This suggests an intriguing idea: suppose, in order to achieve the quick mastery of a structurally transparent orthography, one were to use Roman consonants and the Syllabic vowels. Of course, one could not stop at that point: no resource material exists in such a mixed orthography - and it is not in use anywhere. Either the Roman vowels, or the rest of the Syllabary, would have to be taught - but they could be introduced step by step, at the most pedagogically desirable rate. No general confusion. Meanwhile, courses in Algonquian structure would not be hampered with persistent orthography problems. One could get on with examining the structure of words and sentences.

It may be objected that this means additional graphemes to be learned by students who are often overwhelmed by those they presently are required to learn. To this I answer that it is the cognitive obstacle to learning a particular sound-grapheme correspondence which is the problem, not the number of these correspondences. One need think only of the extra 44 characters the Cree learn for the syllabic transcription of their language (as explained above) to illustrate this point. And the main cognitive obstacle to learning sound-grapheme correspondences is negative transference from the use of vowels in English orthography. (Other obstacles, such as the low acoustic salience of vowel length and some other phonemic contrasts, cannot be resolved by any orthographic convention and are best overcome by the use of minimal pairs.)

The Vowel Order Hypothesis.

The above hypothesis is of course testable, but it seems highly persuasive even prior to such testing. Assuming that it is correct, the real problem becomes assuring a smooth transition to fully Roman orthography (if that is the goal). To this end, the rate and order in which the Roman vowels are best introduced must be determined. I have nothing to say about the rate, which is a practical matter which may vary from class to class.

The order in which vowels are introduced is also a matter for future experimentation. Nevertheless, past examinations can tell us which vowel contrasts present the greatest difficulty. Thus, on a quiz I gave students at Lakehead university on the Roman vowels, the two open vowels a e were most often confused with each other (19 cases); next, the two front vowels i e (with 15 cases); and finally, the two back vowels a o (8 times). Errors in the perception of length (or rather the conscious perception of length) were also common - but this is a separate matter related to salience, rather than to negative transference from English orthography.

Two approaches to the vowel contrasts are possible: one can begin with the points of greatest difficulty, or leave them till last. The latter solution will probably help build selfconfidence in the early part of the course, but may leave the difficult points unmastered by many students. I have therefore chosen to begin with the difficult points, allowing students all the time they need to develop the required skills.

I have therefore produced 4 variants of my literacy materials: (a) one with Syllabic vowels, (b) one in which Roman a and e are introduced and contrasted, (c) one with Roman i and e, and (d) one with all Roman vowels [see appendix B]. They are intended to be used in that sequence.

In the first stage, the points to be learned are the structure of the phonological system (including vowel length and problematic consonant clusters). Roman consonants are used as needed. Completion of this stage gives the students a structural spelling which can then be used for grammatical analysis.

In the second stage, Roman a e are substituted mechanically for their Syllabic counterparts. The students are to work through the same exersizes they did previously, substituting these two vowels appropriately. For further practice, they can write these two vowels in the examples in the Syllabic version of the booklet (using the a/e version as an answer key). In the third stage, the same is done with

Roman i e. [The order of stages 2 and 3 can be reversed where administratively convenient.]

In the last stage, all 4 Roman vowels are used. Here, the Roman version of the booklet can be viewed as merely the answer key for students transliterating the original Syllabic version. (The linguist with no previous knowledge of syllabics can do these excersizes in the reverse order to familiarize herself with the 4 syllabic vowels.)

The booklet is a short one, concentrating on points of difficulty, and it is important that students have additional practice at each stage. This can be done by transcribing and retranscribing at each stage the words used for morphological analysis. In addition to the practice this provides a way of using the skills acquired in phonology classes in a different context, underlining the unity of grammatical analysis.

Once the fourth stage has been reached, it is also time to begin using texts and dictionaries - thus linking grammatical analysis with language learning and literature. Widening the context further, one can introduce the histories of the languages in question - a move which relies heavily on phonological and grammatical analysis. Language history in turn tells of migrations, changes in social structure, economy, and the like.

Most of this is beyond the scope of an introductory course on the structure of Algonquian. Nevertheless, it is important not to lose sight of it - and to share that vision with one's students. Orthographic conventions are only worth learning if they lead to something beyond themselves.

NOTES

1. To the extent that computers replace long term memory, taking on such functions as storing lower level linguistic units, they of course permit the human mind to go on working with higher level units where appropriate. For example, there are a number of programs that store often used words, phrases, or even paragraphs as units for insertion into texts with a single keystroke. In addition, it is always easy to pull one or more paragraphs from one file and to insert them into another as units. That word processors are so constructed as

to make such insertions easy suggests that there are great advantages to allowing the mind to work chiefly with higher level linguistic units. Moreover, sophisticated spelling checkers are further freeing humans from close attention to low level units. In these respects, a computer culture may come to more closely resemble an oral than a literate one.

REFERENCES

Burnaby, Barbara and Robert J. Anthony. 1985. Orthography choice for Cree language in education. Promoting Native writing systems in Canada. Ed. Barbara Burnaby. Toronto: OISE press.

Murdoch, John. 1985. A syllabary or an alphabet: a choice between phonemic differentiation or economy. Promoting Native writing systems in Canada. Ed. Barbara Burnaby. Toronto: OISE press.

Proulx, Paul. 1986. Anxiety management in Native language instruction. Actes du dix-septième congrès des Algonquinistes. Ed. William Cowan. Ottawa: Carleton university, pp.279-286.

----------. 1987a. Bolivian Quechua Reader and Grammar-Dictionary (Crapo and Aitken). IJAL 53.464-466.

----------. 1987b. Evaluation in Native language courses. Photocopied. Darwin, Australia: Northern Territory Department of Education.

----------. Ms1. On the prevention of high anxiety in Native students.

----------. Ms2. The Politics of Educating the Powerless.

Walker, Williard. 1984. The design of Native literacy programs and how literacy came to the Cherokees. Anthropological Linguistics 26.161-169.

APPENDIX A: INSTRUCTIONS ON ARTICULATORY PHONETICS AND PHONEMICS FOR ALGONQUIAN

Sitting in a quiet and somewhat private place, experiment for a few moments with making sounds with your voice. Notice that as long as your mouth is open and air is comming up from your lungs, some sound is being produced. The quality of that sound depends mainly on the position of the tongue and lips, and on how wide you open your jaw. You can make quite a variety of sounds, some of which are used in your own language - some of which are not. Try it, and notice how each movement of the tongue, lips, or jaw changes the sound.

Now try this. With your tongue forward and low in the mouth (just back of the teeth), and your lips spread as in a smile, open your jaw wide and produce a sound. This is the sound your doctor asks you to make before looking down your throat. This sound will be written ◁ in this booklet, and is common in the Algonquian languages.

Slowly raise your tongue and jaw, closing your mouth, and notice how the sound changes. When your mouth is almost fully closed you have another of the common sounds of Algonquian, which we write ▲. Half way between the two is a sound we write ∀.

Once again open your mouth wide, but with the tongue pulled back away from the teeth, and the lips rounded as for kissing. The sound you produce is just a variety of ◁ (as far as most Algonquian languages are concerned) - but this is Micmac ô. As you close your mouth and pucker your lips more and more into the kissing position, you finally come to **u**. Half way between, was ▷. A few Algonquian languages have both **u** and ▷, but most have only an intermediate sound usually written ▷.

Now, what you have just been experimenting with is the science of articulatory phonetics, or how speech sounds are produced. It is important to be aware of how to produce the sounds of a language you are learning or teaching, and to learn to write each one correctly in its proper sequence.

The sounds you have been experimenting with are the main vowel sounds of Algonquian. Notice we have not said anything about the exact phonetic details, which may vary considerably from language to language, and even from person to person. What <u>is</u> important is that in most Algonquian languages these 4 sounds are kept distint from each other, and can thus be used for distinguishing words. Such distinctive sounds are called <u>phonemes</u>.

It is very important not to try writing Algonquian phonemes using English vowels the way they are 'usually' pronounced - an innocent looking shortcut which leads to hopeless confusion.

Another important point to notice is that, phonetically speaking, we cannot really count the possible vowel sounds. As you slowly closed your mouth from ɛ to ə and from ɛ to u, the sound varied gradually.

Each language recognizes some of these variation as significant, but not others. Quechua, an Indian language of South America, recognizes only the 3 end points ɛ ə u. Most Algonquian languages recognize one or two of the midpoints as well. English recognizes even more. This choice of a language to recognize certain sound variations and not others is called the phonemics of that language.

Because each language is phonemically unique, comparisons of the sounds of two languages are never completely accurate. However, we can say roughly that the ɛ in each Algonquian language is a bit like the ɛ in each of the others, and even like the first vowels in the English words 'car' and 'father'. Similarly, the Algonquian Ɛs are quite similar to each other, and to the first vowels in the English words 'bat', 'bet', and 'bay'.

This last point is a good illustration of how languages differ phonemically: English 'bet' and 'bat' are different words with different sounds as far as English is concerned - but these two sounds are considered the same in all Algonquian languages.

Another way in which sounds vary is depending on where they come: at the end of a word, in the middle, next to some other sound, etc. But these are small variations.

Vowels not only vary as to the way they are articulated with the tongue, lips and jaw - they vary in length as well. Consider the English words 'bat' and 'bad'. As far as English is concerned, they have the same vowel and different consonants. But in some of the Algonquian languages (especially in some dialects) the 2 consonants would be heard as 'the same', while the two vowels would be heard as differing in length. Listen to them carefully: which sounds longer?

[This may be a good time to point out that old English and middle English had true long and short vowels like Algonquian. Because of this historical fact, some English texts refer to the modern English versions of these vowels as 'long' and 'short'. But this is a misleading usage: these vowels simply have different points of articulation in modern English.]

Because the difference in length among vowels is not great, and short vowels tend to lengthen when we slow down our speech, it is hard for the student to really become aware of the difference. One way is to listen to the rhythm of words: the longer vowels tend to be stressed more. Another is by listening to minimal pairs:

Micmac:

◁bÅ 'bow' --- ◁̇bÅ 'net'

gV̈s◁l◁tl 'she loves him' --- gV̈s◁̇l◁tl 'she hurts him'

V̈bÅt 'she sits' --- V̈̇bÅt 'woman'

nV̈b◁h 'it's sleeping' --- nV̈̇b◁h 'I killed him'

V̈smÅb 'she fed me' --- V̈smÅb 'you (sg.) fed me'

nV̈m▷lôh 'she sees you (pl.)' --- nV̈m▷lôôh 'they see you (pl.)'

n▷gw◁̇tôh 'she softens it' --- n▷gw◁̇tôh 'she burns it'

Western Ojibwa:

◁gÅm 'count him' --- ◁̇gÅm 'snowshoe'

d◁g▷shÅn◁n 'if you (sg.) arrive' --- d◁g▷shÅn◁̇n 'if I arrive'

w◁̇b◁m◁d 'if you see him' --- w◁̇b◁m◁̇d 'if she sees him'

Moose Cree:

s◁k◁hÅk◁n 'nail' --- s◁̇k◁hÅk◁n 'lake'

nÅpÅy 'water' --- nÅ̇pÅy 'leaf'

◁skÅhk 'kettle, pail' --- ◁skÅ̇hk 'on the earth'

kÅ̇sÅs▷w 'she is too hot' --- kÅsÅs▷w 'she is cooked'

Plains Cree:

◁s◁m 'feed him' --- ◁s◁̇m 'snowshoe'

Notice that the long vowels of Micmac are much longer than those of Cree or Ojibwa - in fact, the <u>short</u> vowels of Micmac resemble the <u>long</u> ones in these languages. The point is, regardless of the actual length, there are pairs of vowels in each language with one longer than the other. It is the <u>difference</u> between the two which distinguishes words, and is therefore phonemic.

Notice too that there are several ways of marking a long vowel:

it may be written double, followed by a colon [:], and a macron or one of the accent marks may be placed over it. All these transcriptions have been used in most of the languages, and should be considered equivalent.

The scientific tradition for writing consonants in the Algonquian languages is pretty much in keeping with the orthographic practises of English, made more consistent. For example, c is used as in 'chat', never as in 'cat' - and g as in 'go', never as in 'wage'.

Here we are only concerned with the writing traditions of the Algonquian languages in a general way: the details of the orthographies of each language must be found elsewhere.

APPENDIX B: SAMPLE OF WESTERN OJIBWA

With Syllabic Vowels.

The alphabet: ᐊ, ᐋ, b, ch, d, ᐁ, g, h, ', ᐱ, ᐳ, j, k, m, n, ᐅ, ᐆ, p, s, sh, t, w, y, z, zh. These may be presented in the form of a table:

	lb	dn	al	ve	gt	front	back
voiceless stops	p	t	ch	k	'	ᐳ, ᐱ	ᐆ, ᐅ
voiced stops	b	d	j	g		ᐁ	
-voi. fricatives		s	sh		h	ᐋ, ᐊ	
+voi. fricatives		z	zh				
nasals	m	n					
semivowels	w		y				

Short Vowels. Ojibwa has 3 short vowels: ᐱ ᐊ ᐅ. Here they are at the beginning, in the middle, and at the end of a word:

ᐱ	ᐱshkᐅdᐁ	ᐱnᐱnᐱ	nᐊmᐊdᐊbᐱ
ᐊ	ᐊbwᐱ	ᐊnᐊng	mᐳkᐊnᐊ
ᐅ	ᐅdᐋbᐋn	zhᐋbᐅnᐳgᐊn	mᐱndᐱdᐅ

Translation:

fire	man	she sits down
paddle	star	road
car	needle	she is big

Write the following words in Ojibwa, one group at a time, using the correct vowels. Then check the answer key and practise till you get them all right.

a. (1) water, (2) man, (3) my arm, (4) tree, (5) cow, (6) three.

b. (1) net, (2) she knocks rice, (3) it's foggy, (4) bear, (5) it's difficult.

c. (1) stone, (2) it's night, (3) beaver, (4) shoe, moccasin.

d. (1) her foot, (2) potato, (3) she plays, (4) dog, (5) she sings, (6) she's dead.

a. (1) n_ b_ , (2) _ n_ n_ , (3) n_ n_ k, (4) m_ t_ g,

(5) b_ zh_ k_ , (6) n_ sw_ .

b. (1) _ s_ b, (2) b_ w_ '_ m, (3) _ w_ n, (4) m_ kw_ ,

(5) z_ n_ g_ d.

c. (1) _ s_ n, (2) d_ b_ k_ d, (3) _ m_ k, (4) m_ k_ z_ n.

d. (1) _ z_ d, (2) _ p_ n, (3) _ d_ m_ n_ , (4) _ n_ m_ sh,

(5) n_ g_ m_ / n_ g_ m_ , (6) n_ b_ .

Answer Key

a. (1) nÁbÁ, (2) ÁnÁnÁ, (3) nÁnÁk, (4) mÁtÁg, (5) bÁzhÁkÁ,

(6) nÁswÁ.

b. (1) ◁s◁b, (2) b◁w◁'◁m, (3) ◁w◁n, (4) m◁kw◁, (5) z◁n◁g◁d.

c. (1) ◁sȧn, (2) dȧbȧk◁d, (3) ◁mȧk, (4) m◁kȧzȧn.

d. (1) ▷zȧd, (2) ▷pȧn, (3) ▷d◁mȧn▷, (4) ◁nȧm▷sh,
(5) n◁g◁m▷/ nȧg◁m▷, (6) nȧb▷.

With Mixed Vowels.

The alphabet: a, aa, b, ch, d, e, g, h, ', ȧ, i̇, j, k, m, n, ▷, ▷̣, p, s, sh, t, w, y, z, zh. These may be presented in the form of a table:

	lb	dn	al	ve	gt	front	back
voiceless stops	p	t	ch	k	'	i̇, ȧ	▷̣, ▷
voiced stops	b	d	j	g		e	
-voi. fricatives		s	sh		h		aa, a
+voi. fricatives		z	zh				
nasals	m	n					
semivowels	w		y				

Short Vowels. Ojibwa has 3 short vowels: ȧ a ▷. Here they are at the beginning, in the middle, and at the end of a word:

ȧ	ȧshk▷de	ȧnȧnȧ	namadabȧ
a	abwȧ	anang	mi̇kana
▷	▷daabaan	zhaab▷nȧgan	mȧndȧd▷

Translation:

fire	man	she sits down
paddle	star	road
car	needle	she is big

Write the following words in Ojibwa, one group at a time, using the correct vowels. Then check the answer key and practise till you

get them all right.

a. (1) water, (2) man, (3) my arm, (4) tree, (5) cow, (6) three.

b. (1) net, (2) she knocks rice, (3) it's foggy, (4) bear, (5) it's difficult.

c. (1) stone, (2) it's night, (3) beaver, (4) shoe, moccasin.

d. (1) her foot, (2) potato, (3) she plays, (4) dog, (5) she sings, (6) she's dead.

a. (1) n_ b_ , (2) _ n_ n_ , (3) n_ n_ k, (4) m_ t_ g,

(5) b_ zh_ k_ , (6) n_ sw_ .

b. (1) _ s_ b, (2) b_ w_ '_ m, (3) _ w_ n, (4) m_ kw_ , (5) z_ n_ g_ d.

c. (1) _ s_ n, (2) d_ b_ k_ d, (3) _ m_ k, (4) m_ k_ z_ n.

d. (1) _ z_ d, (2) _ p_ n, (3) _ d_ m_ n_ , (4) _ n_ m_ sh,

(5) n_ g_ m_ / n_ g_ m_ , (6) n_ b_ .

Answer Key

a. (1) nÁbÁ, (2) ÁnÁnÁ, (3) nÁnÁk, (4) mÁtÁg, (5) bÁzhÁkÁ,

(6) nÁswÁ.

b. (1) asab, (2) bawa'am, (3) awan, (4) makwa, (5) zanagad.

c. (1) asÁn, (2) dÁbÁkad, (3) amÁk, (4) makÁzÁn.

d. (1) ▷zÁd, (2) ▷pÁn, (3) ▷damÁn▷, (4) anÁm▷sh,

(5) nagam▷/ nÁgam▷, (6) nÁb▷.

With Roman Vowels.

The alphabet: A, AA, B, CH, D, E, G, H, ', I, II, J, K, M, N, O, OO, P, S, SH, T, W, Y, Z, ZH. These may be presented in the form of a table:

	lb	dn	al	ve	gt
voiceless stops	p	t	ch	k	'
voiced stops	b	d	j	g	
-voi. fricatives		s	sh		h
+voi. fricatives		z	zh		
nasals	m	n			
semivowels	w		y		

front	back
ii, i	oo, o
e	
aa, a	

Short Vowels. Ojibwa has 3 short vowels: i a o. Here they are at the beginning, in the middle, and at the end of a word:

i	ishkode	inini	namadabi
a	abwi	anang	miikana
o	odaabaan	zhaabonigan	mindido

translation:

fire	man	she sits down
paddle	star	road
car	needle	she is big

Write the following words in Ojibwa, one group at a time, using the correct vowels. Then check the answer key and practice till you get them all right.

a. (1) water, (2) man, (3) my arm, (4) tree, (5) cow, (6) three.

b. (1) net, (2) she knocks rice, (3) it's foggy, (4) bear, (5) it's difficult.

c. (1) stone, (2) it's night, (3) beaver, (4) shoe, moccasin.

d. (1) her foot, (2) potato, (3) she plays, (4) dog, (5) she sings,

(6) she's dead.

Answer Key

a. (1) nibi, (2) inini, (3) ninik, (4) mitig, (5) bizhiki, (6) niswi.

b. (1) asab, (2) bawa'am, (3) awan, (4) makwa, (5) zanagad.

c. (1) asin, (2) dibikad, (3) amik, (4) makizin.

d. (1) ozid, (2) opin, (3) odamino, (4) animosh, (5) nagamo/ nigamo, (6) nibo.

A Relic of Proto-Siouan *rǫ/nǫ 'one' in Mississippi Valley Siouan

Robert L. Rankin

Proto-Siouan 'one' is reconstructed in two versions from two separate cognate sets, both of which are defective in that each has been entirely lacking from one or another of the major Siouan subgroups.[1]

One of the sets for 'one' is found only in Mississippi Valley Siouan (and possibly Mandan). It contains the same root as the indefinite article that is found in the same subgroup. The reconstruction **wį(y)ą* is based on the following cognates: Dak. *wąží, wąči, wąča*; Winn. *hižą*; Chiw. *iyą-ki*, Dheg. **wįą-xti*; and perhaps Mand. *máxana* < **wąxrą*. Except for Mandan, the sound changes and other alterations that yield the attested forms are relatively well understood.[2] In the same languages the indefinite articles have a form based on **wį* (Winn., Chiw., Dheg.) or **wą* (Dak.), depending on whether or not the language has metathesized the vowels of **wį(y)ą*.

The older of the two reconstructible words for 'one' is the less well attested, found until now only in Ohio Valley (Southeastern) Siouan with a probable cognate in Hidatsa.

Ohio V.	
Ofo:	nû fha
Biloxi:	sǫ-s a
Tutelo:	nǫ:s a
Missouri V.	
Hidatsa:	ru-wáca

The OVS forms yield **nǫ:sa*, internally reconstructible to **rǫ:sa*. The Hidatsa cognate retains only the first syllable (morpheme?), (compare Crow *hawáta* 'one'), and it undergoes the usual Crow/Hidatsa denasalization. At the moment, it seems best to reconstruct the root as **nǫ-* or **rǫ-*, that portion which is attested in all of the above mentioned languages.

It would be nice to find confirming evidence in Mississippi Valley Siouan for this reconstruction, and we find it in Quapaw, hidden away in the construction for 'once, one time'. The term is *hí nǫxtį*. Iterative numeral words in Quapaw are formed by preposing *hi* 'times, amount' to the number and suffixing a nasal vowel, *-į*, which often collapses with the stem-final vowel. The result was probably a compound at one time composed of the numeral stem and the verb 'do, use', whose form is **ʔǫ* (cf. the Osage cognates with *-ǫ*, below).

The expected Quapaw form, if it were based on *mįxti* 'one', would be **hi mįxti-į* contracted to **hi mįxtį*. Compare Quapaw *hí nąpą-į* 'twice', *hí dabnį* 'thrice', *hi towį* 'four times', and the

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Osage cognate iteratives (*hũ*) *wį́áxci-ǫ* 'once' (and the morphemically similar Omaha term), (*hũ*) *ðǫpi-ǫ́* 'twice', (*hũ*) *ðábðį-ǫ* 'thrice', (*hũ*) *tópi-ǫ* 'four times', etc. The actually occurring Quapaw form, *hí nǫxtį* is clearly composed of preposed *hi* 'times', suffixed *-į* (probably from the earlier *ʔǫ* 'do, use', cf. Osage), and the numeral stem *nǫ-xti* 'one', which is in turn composed of the intensifier *-xti* 'real, very' (attested throughout Siouan, cf. Quapaw *mį́-xti* 'one') and the root *nǫ-*, which can only mean 'one' in this context.[3] As far as I can determine *nǫ-*, then, is a relic, isolated in this unique Quapaw derivational construction, although now that it is known to occur in the Mississippi Valley subgroup, perhaps other instances will be discovered.[4]

If this discovery adds nothing to the phonological shape of our reconstruction, it does at least add considerable substance to the cognate set from which the proto form was posited. The Mississippi Valley Siouan subgroup is the connecting link between the two subgroups in which **nǫ-* is otherwise attested.

I mentioned above that **nǫ-* is probably the more archaic of the two reconstructible forms. One justification for this view is the fact that **nǫ-* is the more widely distributed of the two forms; it is found in the subgroups that are most distant from each other, both linguistically and geographically. Another is the fact that it is **nǫ-* that has cognates in the more distantly related Catawban.

Our knowledge of Catawban comes from the remnants of several languages once spoken in the Carolina piedmont. In early historical times these Catawban speaking remnants banded together with the Catawba proper forming a poly-dialectal community whose linguistic divisions are only poorly known. The only other independent Catawban language of which we have knowledge is Woccon.

Catawba 'one' is transcribed in a variety of ways by the various researchers who attempted field work on the language. All show variation between initial oral and nasal stops however.

Catawba:	dɑpą	(Susman)
	dəpę́	(Swadesh, Speck)
	nəpę́	(Speck)
	nepáⁿ	(Gatschet)
	dəpən ˌʔ	(Swadesh)
Woccon:	noponne	(Lawson in Carter 1980)
	to nne	(Lawson in Carter 1980)

Taken together, the Catawba and Woccon forms reproduced above (there are numerous other variant transcriptions) illustrate two important points. First, the initial syllable of the Catawban forms appear to be the proper match for Proto-Siouan **nǫ-* 'one' reconstructed above.[5] Second, the alternation or (more probably) variation between initial oral and nasal stops preceding nasal vowels is as common (and ancient) in Catawban as it is in Siouan, making this phonological characteristic of Siouan-Catawban very old indeed.

The discovery of a Quapaw reflex of *nǫ- 'one' strengthens our etymology for Proto-Siouan-Catawban 'one' appreciably.

NOTES

[1] The cognate sets that I refer to here were assembled in part at the Comparative Siouan Workshop organized by David Rood and held in the Summer of 1984 at the University of Colorado. Specifically, data were contributed by Randolph Graczyk (Crow), A. Wesley Jones (Hidatsa), Richard Carter and Patricia Shaw (Dakota), and the author's field notes (Kansa, Quapaw, Osage, Omaha and Ponca). John Koontz also provided Omaha data, read a draft of this paper, and provided a number of very useful comments and suggestions.

Other (i.e. published or otherwise available) sources are listed in the bibliography and include Hollow 1970 (Mandan), Vantine 1982 (Chiwere), Miner 1984 (Winnebago), Swetland 1977 (Omaha), Dorsey and Swanton 1912 (Biloxi and Ofo), and Dorsey 1882, Hale 1883, Sapir 1913 and Frachtenberg 1913 (Tutelo), Shea 1984 (Catawba) and Carter 1980 (Woccon). Zeyrek 1982 discusses the Siouan and Catawban counting systems generally. The 1984 Comparative Siouan Workshop was supported by the National Science Foundation under grant #BNS-8406236 and by the National Endowment for the Humanities under grant #RD-20477-84.

[2] I do not mean to imply that the sound correspondences for this lexical set are all regular. The reflexes of what Koontz and I have reconstructed tentatively as *(y) are, in fact, irregular, and there are some problems with the initial labial. Koontz suggests that the *y may be epenthetic. Presumably it might then postdate common Mississippi Valley Siouan, and this might explain its phonetically plausible but historically irregular development.

Since sequences of V_1V_2 are not normal in MVS, *wį(y)ą is probably bimorphemic, *wį + ą. The only suffix with the shape ą that I am aware of is the iterative suffix (discussed above) used with numerals in Osage and Omaha-Ponca. It, in turn, may be derived from the PS verb 'do' (although we would expect *ǫ rather than *ą). If we reconstruct *wį + ą, we may, in fact, be reconstructing an iterative form with the meaning 'once' rather than 'one'.

[3] The phonologically similar Biloxi word with the translation 'eldest, elder', *noxti*, found in Dorsey and Swanton (1912, 238) probably exemplifies a different but homophonous PS root *rǫ- 'to grow, age', cf. Ioway *nų* 'grow up' or Osage *nǫhí* 'reach mature age', *nǫ́hǫ* 'older person'.

[4] Koontz has suggested that the common Siouan birth name for the first born daughter (usually written *Winona* in Dakota) should be analyzed *wį* 'female', *-nǫ* 'first' and *nį* 'diminutive'.

Yet another relic may occur in Quapaw *éną* (*e* 'that' + *nǫ* 'one') meaning 'only that' as opposed to *énąpa* (*e* that + *nąpa* 'two' meaning 'both'. La Flesche (1932) has *enoª 'xtsi* 'he, she, it alone.'

[5]This means that the Catawban forms for the numerals 'one', 'two' and 'three' all match corresponding Proto-Siouan forms well.

REFERENCES AND BIBLIOGRAPHY

Carter, Richard. 1980. The Woccon Language of North Carolina. *IJAL* 46:171-182.

Dorsey, James Owen. 1882-1891. Unpublished Tutelo vocabulary. Collected in 1882, edited with Hale and Hewitt materials ca. 1891. National Anthropological Archives, Smithsonian Institution. Washington, D.C.

Dorsey, James Owen. c.1890. Unpublished Quapaw vocabulary. National Anthropological Archives, Smithsonian Institution. Washington, D.C.

Dorsey, James Owen and John R. Swanton. 1912. *A Dictionary of the Biloxi and Ofo Languages*. BAE-B 47. Washington, D.C.: Government Printing Office.

Frachtenberg. Leo. 1913. Contributions to a Tutelo Vocabulary. *AA* 15:478-479.

Hale, Horatio. 1883. The Tutelo Tribe and Language. *PAPS* 21:1-47.

Hollow, Robert. 1970. *A Mandan Dictionary*. University of California Ph.D. dissertation.

La Flesche, Francis. 1932. *A Dictionary of the Osage Language*. BAE-B 109. Washington, DC: Government Printing Office.

Miner, Kenneth. 1984. *Winnebago Field Lexicon*. MS distributed at the Comparative Siouan Workshop.

Sapir, Edward. 1913. A Tutelo Vocabulary. *AA* 15:295-97.

Shea, Kathy. 1984. *A Catawba Lexicon*. University of Kansas M.A. thesis.

Swetland, Mark J. 1977. *Umoª hoª Iye of Elizabeth Stabler*. Winnebago, NE: Nebraska Indian Press.

Trumbull, J. Hammond. 1874. On Numerals in American Indian Languages, and the Indian Mode of Counting. *Transactions of the American Philological Association* 5:41-76.

Vantine, Liessman. 1982. Unpublished field notes on Ioway and Otoe. Deposited in the American Philosophical Society Library, Philadelphia, PA.

Voegelin, C.F. 1941. Internal Relations of Siouan Languages. *AA* 43:246-49.

Zeyrek, Deniz. 1982. *Numeral Systems in American Indian Languages East of the Rocky Mountains.* University of Kansas M.A. thesis.

MAKING SENSE IN ESL:
A Set of Three Rhetorical Structures

Robert Bruce Scott

Abstract: This paper presents a coherent framework for syllabus design in English as a Second Language instruction. A case is given for a discourse level focus in the ESL classroom, from beginning stages of learning through advanced levels. Then, three rhetorical modes, critical analysis of fiction, truth-searching logical conversation, and classical argumentative essay writing, are suggested as the central activities in a content-based, textbook-free, and highly individualized ESL program.

The teacher gathers up some corrected assignments, grabs the main textbook and lesson plan, makes an effort at a cheery remark as a token of comradery with fellow laborers, and strides out the door and across the street to the building where a class must be conducted for fifty minutes every day of the work week. Exactly thirty seconds after the bell has rung, the teacher enters the room, as if trespassing upon what has been up to that moment a festive atmosphere of intense conversation in several different languages: now all eyes, four fewer than a week ago, drift in the direction of the arriving teacher, searching hopefully for an indication that he or she has somehow miraculously been inspired since the last class session and has come ready to engage them in something which will stimulate their minds.

The same old dull pair of eyes stare back at them, dashing all hope, and the vocal orifice releases its mysteriously hypnotic monotonous speech patterns, instructing the obedient students to turn to page whatever. Another session of survival English has begun. Students will improve their ability to keep their eyes open while their brains sleep; they will learn how to even more effectively please their teacher with the correct responses to given stimuli; they will become even better at smiling at the teacher's private jokes. At the end of today's class, that bothersome weed of communication which makes life so complicated will have been prevented from growing and spreading so freely: perhaps one day the teacher will succeed in stamping it out forever.

Down the hall something a little different is happening in another section of the same class-level. Everyone, including the teacher, enters the room at about the same time, chatting and exchanging benevolent greetings. As they enter the room, they see another student busy writing things on the chalkboard and

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organizing her notes. The students and the teacher sit down, the presenter passes out pre-listening questions and an outline of her presentation, and class begins. She gives a general description of the topic which she chose six weeks earlier, and then outlines two differing opinions concerning that topic. During her presentation, she is politely interrupted on several occasions by her fellow classmates, who ask her to clarify particular points or to support certain assertions with adequate evidence. Even the teacher must raise his hand and be called on in order to contribute to the discussion. Every person in the room pays attention to everything said.

The presenter decides to go further than just a description of two opposing views on the issue, and courageously expresses her own belief, highlighting the evidence which she considers most pertinent. After a quick true-false post-listening quiz, the classroom erupts into fervent applause. Few people even notice that the bell to end class has rung long ago. As most of the students leave, others stay behind to continue the discussion with the presenter. That "bothersome weed of communication" is flourishing anew under the watchful care of an ESL teacher-gardener.

Obviously, these two scenarios do not exhaust anywhere near the full range of possibilities for ESL instruction. Instead, they could be considered as distant neighbors along a spectrum of communicative emphasis in the classroom. The assumption in the rest of the paper you are reading is that the second of the two scenarios given above is the preferable one. The rest of this paper presents the fundamentals of an approach to ESL instruction which has actually resulted in the kind of exciting classroom interaction described in scenario number two.

In order to make sense of English, teachers and students can impose rigid rhetorical structures upon reading material, conversational exchanges, and their own writing. The key to the success of such a strategy depends on the range of applicability for the selected rhetorical structures throughout the extent of English language use and also on the relative simplicity of the structures. Language exchanges must be simplified rather than further complicated by instruction in the chosen rhetorical modes.

The focus of my approach to ESL is placed on critical analysis of fiction, truth-searching logical conversation, and classical argumentative essay writing. Each of these activities stimulates a high degree of language processing in both the teacher and the learner, exposing them to large quantities of lexical items and syntactic relationships all contained within extended contexts which reinforce language acquisition by their length and semantic complexity. These activities also provide intellectual stimulation which readily

translates into pleasing language experiences: students and teachers soon come to relish each new opportunity to participate in successful communication. ESL learners carry with them from such interaction a positive attitude and successful strategies for organizing their further language experiences outside and beyond the ESL classroom.

The following is an abbreviated set of questions and answers which attempt to delineate the respective roles of syntax, pronunciation, and content in second language instruction. First, what is the goal of second language instruction? The goal of second language instruction is to enable learners to participate in meaningful communication events in the target language with a majority of the humans who use that language. Second, what constitutes a majority of the humans who use the target language, in the case of any given language? The majority of target language users signifies a group of people who are generally tolerant of a greater degree of diversity in acoustic phenomena and syntactic form than is any single minority group of users of that same target language. Third, what does it mean to participate in meaningful communication events? To participate in meaningful communication events means to be able to judge the appropriateness of an utterance in the context of a communication event, and to be able to produce utterances to fit into contexts which have been established by mutual consent in accordance with Grice's cooperative principle of logical conversation (1975:41-44).

Next, it is necessary to consider the implications of the answers given above, i.e., the applications of these answers for the second language classroom. First, how can a second language teacher enable his or her students to participate in meaningful communication events? This can be done through guided interaction which continuously focuses on meaning rather than on syntax or phonetic facts(Krashen 1985:92). Why not focus on syntax? Syntax is generally restricted to the sentence level, and by exploring intrasentential combinatory patterns the learner's focus is moved away from intersentential and paragraph or discourse relations, i.e., away from the context which gives any particular utterance its meaning by virtue of how that utterance adapts to contextual constraints on appropriateness; this concept of appropriateness derives from Wittgenstein (1953:144). Why not focus on phonetic facts? Pronunciation drill, including all the manifestations of this type of activity, the instructional mode of choice for teachers who wish to focus on phonetic facts, draws the learner's attention away from the context of an utterance or communication act, and even more narrowly limits the learner's focus by often ignoring sentence-level constraints on individual lexical events.

The three rhetorical structures to be presented in this paper, and their associated activities, address the needs of ESL learners in the area of content sequencing, helping them to

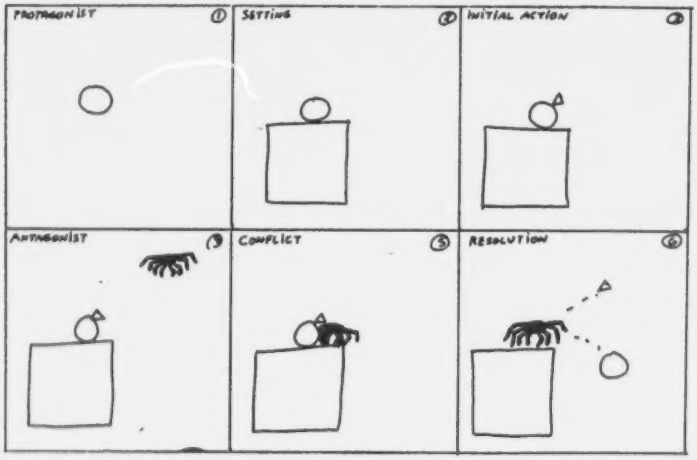
organize reading and listening content in such ways that comprehension becomes a matter of fitting language into appropriate rhetorical categories, while written and spoken responses are created from within the constraints of a similarly limited set of categories. This attempt to fit language into rigid rhetorical structural categories forces learners to focus entirely on what is being communicated rather than allowing them to be needlessly distracted by novel lexical items or unfamiliar syntactic units. This is precisely the kind of focus required for effective language acquisition (Krashen 1985:2).

In the skill area of reading, I have chosen to emphasize critical analysis of fiction as the key rhetorical mode. Grellet (1981:7) suggests that "reading is a constant process of guessing, and what one brings to the text is often more important than what one finds in it." The global context for fiction is concurrently present at several levels: life itself provides the general context which allows readers to comprehend and empathize with characters and actions in a story; the developing plot provides a more limited context which constrains the possibilities for further developments, i.e., the reader can predict a small number of conceivable next moves; finally, the sentence-level environment of new lexical items helps the reader to guess meanings, such guesses constrained simultaneously at all three levels of context.

The format of critical analysis which I have selected as the rhetorical structure to simplify content organization for the ESL reader of fiction was presented by Lincoln (1986:unpublished seminar). She suggests that all stories, no matter their length, can be analyzed in terms of: protagonist, setting, initial action, antagonist, conflict, and resolution. She uses the "Little Miss Muffet" nursery rhyme and a series of six abstract figures to convey and illustrate how to apply the six terms to the analysis of a piece of fiction.

The first line, "Little Miss Muffet", introduces the protagonist, illustrated by Lincoln by a circle upon an empty background. The second line, "sat on a tuffet", gives the setting, and the cumulatively constructed figure shows a circle atop a square. The next figure is of a circle atop a square, with a small triangle placed contiguous to the circle, the triangle representing the initial action given in the third line, "eating her curds and whey". The antagonist appears in line four, "along came a spider", and figure four adds another geometric shape up in the left-hand corner of the picture frame, some distance away from the more centered circle, triangle, and square shapes. In line five of the rhyme, the conflict is described, "which sat down beside her", and this conflict is represented in figure five by placing spider shape (as it turns out, a spider image itself works well here and seems to apply to most manifestations of the antagonist archetype[2]) next to the circle atop the square. Finally

the conflict is resolved in line six, "and scared poor Miss Muffet away", this resolution reflected in the falling away of the circle from atop the square, leaving the triangle up in the air and the spider-shape as the sole occupant of the top edge of the square.



Modified Version of Lincoln's Art

This series of figures and the accompanying nursery rhyme work very well as an introduction to the critical fiction analysis format. Students readily grasp the six basic concepts, and can then begin to apply them in their analyses of everything from the most basic short beginner-level stories to much longer and more complex advanced novels. One effective way to introduce this rhetorical form is within the context of an almost completed reading of a story which has been handled together as a class. Near the end of the story, if students are introduced to this way of analyzing a story, the class as a whole can attempt to reach concensus on who the protagonist and antagonist are, where and when the setting is, what the initial "starter" action is (not necessarily the first active verb), and how the main conflict between the protagonist and antagonist can be described. Then, as students approach the end of the story, they tend to or can be encouraged to guess how the conflict will be resolved, which piques interest at what is often a crucial point in the process of reading a story.

Then, the class as a whole can construct a book report on the story, dividing the report into sections equivalent to the six basic terms listed and described above. It is a good idea for the teacher to provide students with a model book report, preferably written by the teacher about a book he or she has

recently enjoyed reading, before asking students to start doing reports on stories of their own choosing.

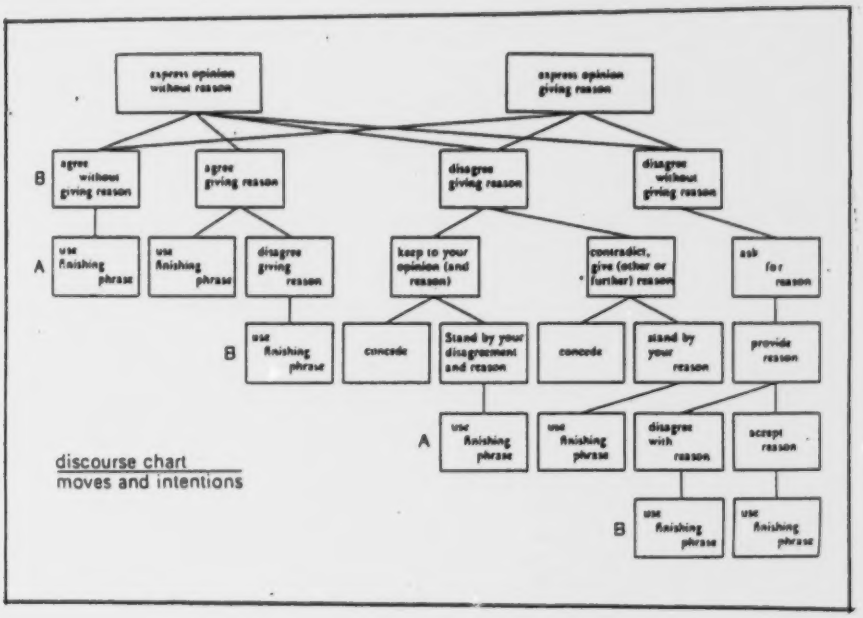
In the skill area of conversation, the rhetorical structure which I have chosen to emphasize is truth-searching logical conversation. In making this choice, I have not ignored the fact that a good number of English conversations are not particularly logical: a safe assertion would be that many conversations in English are simply exercises in free association, with no discernible form, goal, or purpose other than for enjoyment. However, such conversations lie outside the scope of ESL instruction; our students can hardly be expected to achieve complete competency for such free-form discussions, as this would entail profound experience within the language and a wide knowledge of various connotations and associations which are inextricably bound to the culture. Nevertheless, ESL students should be expected to achieve another kind of fluency, in which they become able to consciously move a talk in a given direction by building upon what has been said.

A further rationale for concentrating on logical conversation is the general rule that the more academic a discussion the more rigidly logically organized it tends to be: since much ESL instruction aims toward preparing the learner for participation in English-speaking academic settings, it follows that a focus on a formal conversational mode such as truth-searching logical conversation is advantageous to the learner.

The truth-searching logical conversation ESL teaching method has evolved since its introduction (Scott 1985:30-42). The basis for this method is the way in which Peter Mohr's discourse chart (1981:154) implicitly teaches Grice's rules of logical conversation (1975:41-58). First, the rule of quantity is upheld, since opinions without a sufficient amount of reasoning either force the conversation to end abruptly or force the other participant to send back a request for more information. Second, the rule of quality is upheld, since reasons can be contradicted and held up to inspection by either participant. Third, the rule of relevance is upheld, since nothing except a relevant statement can be made to fit into any of the available categories. Fourth, the rule of manner is upheld, since orderliness and directness are intrinsic to the discourse chart itself.

At an intermediate level of English proficiency, ESL learners can easily be taught to understand the labels used on the Mohr chart. Then, it is useful to help them plot sample conversations through the chart until they become proficient at fitting conversational moves into appropriate intention slots. Next, the teacher can outline various routes through the chart so that students in pairs can develop their own written conversations to match each route. At this point, students can be exposed to carefully selected recorded conversations which they attempt to

plot along appropriate pathways on the chart.



Mohr's Discourse Chart

After gaining proficiency in the above described chart activities, students are ready for orchestrated logical conversations. These can be handled in either or both of two ways, depending on whether a competitive atmosphere exists in the class. If there is such an atmosphere, students will probably have a good time during a flashcard exercise[3]. The class is divided into two teams to participate in a debate-like activity, in which the next person in line from each team attempts to form a statement which fulfills the requirements of a given label displayed on a large flashcard within a series of such cards following a particular route along the discourse chart. For the sake of continuity and in order to cultivate extended discourse habits, the teacher should feel free to enlarge on and even improvise within the rather limited number of exchanges included on the Mohr chart.

Another way to provide orchestrated logical conversation practice is through the use of conversation booklets. The pages of these booklets look just like the flashcards in the above activity. Students are provided with a list of optional topics or may choose their own. Some popular topics often result from a survey of current magazines and newspapers, or from the free exercise of the teacher's imagination. Each pair of students chooses at random a conversation booklet, and their ensuing

conversation follows each successive rhetorical cue in a sort of discovery adventure. The teacher's role during this second type of orchestrated logical conversation activity is to move slowly from one pair to the next, eavesdropping and answering any questions.

Both of the orchestrated truth-searching logical conversation activities described above can produce a lot of enthusiasm in the classroom. Students often do not notice the passage of time while engrossed in this kind of activity. In order to ensure the success of these orchestrated conversations, however, it is important that the teacher provide a number of different routes for conversations to follow. In developing these alternate routes, it is necessary to diverge considerably from the limited possibilities included on the Mohr chart. This is necessary because the Mohr chart labels and sequences assume that once two participants disagree it is inevitable that there will be a winner and a conceding loser, or else that both participants will escape through a finishing phrase. This assumption ignores two other possibilities: if discovery of truth is the common goal among participants in a logical conversation, then there can be no loser; furthermore, such "truth" is frequently negotiated among the participants in a conversation, with a new middle-ground opinion surfacing to cover strong evidence from all sides. Students should be encouraged to take this open-minded approach to conversation rather than the more dogmatically entrenched view that each participant is simply defending opinion-turf.

After some experience with orchestrated truth-searching logical activities, students can receive and comprehend a lecture on the guiding principles of logical conversation (Grice 1975: 45-46). These principles will appear reasonable to the students since they have been working within a model which implicitly contains the very same principles. It is a good idea to present the cooperative principle and the underlying rule categories by way of examples in which each rule is broken. Such examples can be found in everyday encounters, or can be invented in order to capitalize on the humor of many imaginable exchanges. After such a presentation, students are ready to consciously monitor and participate in unorchestrated conversations, with no cues. These can be taped and analyzed and evaluated by the teacher, utilizing a tool such as the one below (Scott 1985:42).

Instructions: Under each rule category, choose the descriptor which best fits the student's contributions. Award the student the corresponding number of points in that category. Finally, give an assessment of how well the student followed the cooperative principle, on a scale of one to twenty points. Total possible points is one hundred.

Quantity:	0	rambling uncontrollably
	5	too much extraneous information
	15	too much detail, but message and direction clear
	20	appropriate
	15	lacking in detail, but message and direction clear
	5	essential information lacking
	0	silence
Quality:	0	central statement is contrary to fact
	5	central statement could be true, but faulty reasons given
	10	central statement could be true, no reason given
	15	central statement probably true, no reason given
	20	central statement nicely supported by reasons
Relevance:	0	nonsense(non-sequiturs)
	5	bordering on nonsense, but touching topic
	10	each statement has some relationship to preceding ones
	15	statements often directly connected to previous ones
	20	relevant contributions every time
Manner:	0	disorganized and ambiguous
	5	loosely organized and ambiguous
	10	loosely organized and clear
	15	well organized, but ambiguous
	20	well organized and clear(perspicuous)

Conversation Grading Chart

In the skill area of writing, I choose to emphasize the rhetorical mode of classical argumentative essay writing. This kind of essay posits a thesis and a differing antithesis, evidence for both of which is presented, that in favor of the antithesis being disproved and that in favor of the thesis being upheld. The primary rationale for focusing entirely on this rhetorical form is that most other forms can be subsumed within it. For example, a comparison-contrast essay becomes, within the argumentative approach, a treatment of the thesis that the objects of comparison are similar versus the antithesis that they are different, or even a treatment of the thesis that the objects in question are comparable versus the antithesis that there is no basis for any comparison. A classification essay becomes a treatment of the question of appropriate classification, pitting the thesis that a certain number of items are elements of a single group against the antithesis that they are not. Most such essay-types can be treated within the longer context of the classical argumentative essay.

A secondary rationale for concentrating on the argumentative essay format is the fact that it is applicable across a wide

range of fields of enquiry, from literature to chemical engineering: in every field new ideas and old traditions are debated over as their proponents search for truth and vie for dominant roles in that profession. ESL learners who enter their chosen fields of study with the ability to analyze problems through use of the argumentative essay rhetorical mode possess a marked advantage over their peers who might not even be aware that the information they receive in classes only represents currently accepted opinion and is open to question and testing. The focus on argumentative essay writing in ESL prepares ESL learners to take active roles in their classwork and in their chosen areas of specialization at both the secondary and university levels and beyond.

Classical argumentative essay writing derives from Aristotelian rhetoric. Each paragraph in this essay format has a clearly defined rhetorical purpose, and the ultimate goal of the essay is to convince the reader that the thesis is correct, not only on its own merits but also rhetorically by default because the antithesis is incorrect. The parts of the essay are exordium, narratio, propositio, partitio, reprehensio, confirmatio, an optional digressio, and the peroratio. ESL students can be introduced to the terms and descriptions of each part of the argumentative essay, and then helped to label the different parts of a sample essay, preferably one written by the teacher for the students. Then, the following pre-writing procedure can be presented:

1. Get a topic.
2. Form your own opinion on some facet of this topic.
3. Imagine another opinion in opposition to your own.
4. Construct the propositio, or antithesis-thesis.
5. Think of two or three strong pieces of evidence or logical reasons to support the antithesis.
6. Think of two or three strong pieces of evidence or logical reasons to support your thesis.

After students have completed the pre-writing procedure for a given topic, the following writing procedure can be presented:

1. Write the introductory paragraph, which includes the exordium(hook) to catch the reader's interest and the narratio to establish an intersection between the reader's set of knowledge, experience, and ideas and your own such set, regarding the topic.
2. Write the second paragraph.
   a. The propositio from step four of the pre-writing procedure is the first sentence of this paragraph.
   b. The reasons or evidence for each opinion, from steps five and six of the pre-writing, comprise the rest of paragraph two, the partitio, or plan.

3. Construct the reprehensio, or the two or three paragraphs in which you disprove, one by one, the two or three reasons which form the support for the antithesis.
4. Construct the confirmatio, or the two or three paragraphs which support with evidence the two or three reasons which form the support for your thesis.
5. Write an enthusiastic conclusion, or peroratio, which makes suggestions or predictions based on the truth of the thesis.
6. Note that at any point in the essay it is possible to include a digressio, which is an anecdote related to the topic and designed to entertain the reader, not to convince him or her.

Using the classical argumentative essay form, ESL students can produce long coherent texts. The ESL teacher can decide how to handle these texts and how to respond to them. It is probably a good idea to have students go through two drafts, with feedback on the first one restricted to syntax and rhetorical effectiveness, and with the second draft evaluated and graded on the basis of some combination of content and form standards. Again, the teacher is the best judge of how to manipulate the vast amount of student writing produced through this rhetorical mode.

Indeed it is the teacher who determines the day-to-day focus and pace of the ideal ESL class, and this key role is made easier to fulfill when students and teacher communicate within the clear and sensible rhetorical structures presented above. The sensitive ESL teacher will respond positively, yet not to an exorbitant degree, to even the slightest indication that a student has begun to incorporate a new concept into his or her use of the English language; the empathetic ESL teacher will use modeling feedback to correct a student rather than raising and strengthening that student's affective filter (Dulay and Burt 1977:95-126) by direct verbal assault; the perceptive ESL teacher will recognize when a slightly different direction suggested by a student or by something a student does is pertinent and might actually help the class as a whole to reach a higher goal than the one originally set by the teacher; the rational ESL teacher will ensure that classroom communication takes place on a plane in which reason is accorded highest value. That is why I suggest that successful ESL teachers will be even more successful if they include critical analysis of fiction, truth-searching logical conversation, and classical argumentative essay writing in their instructional approach.

> There is no teaching until the pupil is brought into the same state or principle in which you are; a transfusion takes place; he is you and you are he;

then is a teaching, and by no unfriendly chance or bad company can he ever quite lose the benefit.
(Ralph Waldo Emerson)

NOTES

1 Rhetorical simplicity does not preclude semantic complexity.

2. Innovation by Mary Mufich-Vezilich in a reading class at the Applied English Center at K.U. in the fall of 1987.

3 Flashcard idea suggested by Zili He of the K.U. linguistics department in 1983.

REFERENCES

Dulay, H. and Burt, M. (1977). "Remarks on Creativity in Language Acquisition", in Viewpoints on English as a Second Language, edited by Dulay, Burt, and M. Finnochiaro. New York: Regents.

Grellet, F. (1981). Developing Reading Skills. Cambridge.

Grice, H.P. (1975). "Logic and Conversation", in Syntax and Semantics, volume iv., edited by John P. Kimball. New York: Academic Press.

Krashen, S. (1985). The Input Hypothesis: Issues and Implications. New York: Longman.

Lincoln, W. (1986). Two-day seminar in Quito, Ecuador.

Mohr, P. (1981). Discourse Chart, in The Communicative Teaching of English: Principles and an Exercise Typology, edited by Christopher N. Candlin. New York: Longman.

Scott, R.B. (1985). "The Use of Flowcharts and Logic to Teach Conversational Skills in Advanced ESL Classes". Washington, D.C.: ERIC Clearinghouse on Language and Linguistics.

Wittgenstein, L. (1953). Philosophical Investigations, translated by G.E.M. Anscombe. New York: Macmillan.

THE PATH CONTAINMENT CONDITION AND ARGUMENT STRUCTURE

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Abstract: This study investigates the internal structure of verb phrases (VPs). Using the Path Containment Condition as developed by May (1985) to establish relations between (quantified) arguments, this study draws two conclusions about the structure of argument-relations within VPs. First, arguments have binary relations with projections of the verb. And second, verbal modifiers have more proximate D-Structure relations with the verb than do the subcategorized arguments of the verb.

Introduction

May (1985) develops a theory of logical form that expresses the logical representation of a sentence syntactically. His theory, which is grounded in the Government and Binding framework, derives the logical form of a sentence from its S-structure through the free adjunstion of logical operators to the categorial nodes stated at S-structure. According to May, it is only at this syntactically-derived level of logical form that the logical properties of a sentence--its scopal and binding relations--can be explained. However, since the free adjunction of operators creates structures that overgenerate logical properties, May posits a well-formedness condition on LF-representations, the Path Containment Condition (PCC), that constrains permissable logical forms.

In this paper, I will use the two major assumptions of May's theory--free operator adjunction and the PCC--to investigate the structure of Verb Phrases (VPs). I will show that, within May's theory, VPs have binary branching structures and adverbial adjunctions are the most proximate arguments of a verb.

May's Theory of Logical Form

May (1977) argues that the ambiguity of (1) follows from the fact that the rule of Quantifier Raising can derive two different logical forms for (1), namely (2a,b).

(1) Some man loves every woman

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(2a) $[_S$'$[_S$every woman$_3[_S$some man$_2[_S e_2$ loves $e_3]]]]$

(2b) $[_S$'$[_S$some man$_2[_S$every woman$_3[_S e_2$ loves $e_3]]]]$

As (2) shows, Quantifier Raising (QR), a rule that adjoins a logical operator to an S-node, can generate LF-structures that assign broad scope to either quantifier (where the outside quantifier is said to have broad scope). Hence, the ambiguity of (1) obtains from the two syntactic representations that are derivable for (1).

May (1985) revises his account of the ambiguity of (1). Noting that the Empty Category Principle, a locality principle on admissable relations between antecedents or heads and their arguments,[1] requires empty categories to be properly governed at LF, May shows that LF (2a) is well-formed but LF (2b) is not. That is, (2a) satisfies the ECP because all of its empty categories (ECs) are locally governed; on the other hand, (2b) violates the ECP because one of its ECs, viz. e_2, is prohibited from being locally governed by its A'-antecedent by the presence of an intervening A'-operator (the quantifier <u>some</u>).[2] Consequently, (1) has only one well-formed logical representation--(2a). To account for the ambiguity of (1), May employs the Scope Principle (3).

(3) The Scope Principle (SP). In a class of occurrences of Operators X, if O_i,O_j are elements of X and O_i governs O_j, then O_i, O_j have free scope;
where A governs B iff A c-commands B and B c-commands A, and there are no maximal projection boundaries between A and B; and
where A c-commands B iff every maximal projection dominationg A dominates B , and A does not dominate B.

Applied to (2a), an LF-representation in which the operator <u>every</u> governs the operator <u>some</u>, the Scope Principle gives free scope to the quantifiers, allowing multiple readings to be assigned to (1). The SP also successfully predicts the lack of ambiguity for (4), which has LF (5).

(4) Someone believes that everyone left.

(5) $[_S$'someone$_2[_S e_2$ believes $[_S$'everyone$_3[e_3$ left]]]]

In (5), since a maximal projection boundary (S') intervenes between the two operators, <u>someone</u> does not govern <u>everyone</u>; therefore, the Scope Principle does not apply to (5). The

only scopal relation that can be assigned to (5) is the one defined configurationally, the one that gives broad scope to someone.

What May's theory fails to predict correctly, however, is an example like (6).

(6) Who bought everything for Max?

QR will generate LF (7) for sentence (6). Unfortunately, (7) is an ill-formed logical representation: it violates the ECP because the quantifier prevents the wh-operator from locally governing e_2. This leaves (6) without a well-formed LF, making the sentence uninterpretable.

(7) $[_S$ who$_2$ $[_S$ everything$_3$ $[_S$ e_2 bought e_3 for Max]]]

To derive a grammatical logical representation for (6), May replaces QR with a more general rule of free operator adjunction. Such a rule permits not just S-adjunction, but adjunction to any categorial node. Since free adjunction allows VP-adjunction, LF (8) can be derived for (6).

(8) $[_S$ who$_2$ $[_S e_2$ $[_{VP}$ everything$_3$ $[_{VP}$ bought e_3 for Max]]]]

Sentence (6) now has a well-formed LF because (8) satisfies the ECP. A further consequence of LF (8) is that the scopal relations of (6) are correctly predicted by it. That is, in (8) the wh-operator does not govern the quantifier because the maximal projection boundary VP intervenes between these operators, so when the SP is applied to (8), it correctly predicts that there will only be configurationally defined scope.

Support for the above analysis comes from the contrast between (6) and (9).

(9) What did everyone buy for Max?

Unlike (6), (9) is ambiguous. It permits the reading in which everyone bought one particular item and the reading in which every individual each bought something (this thing could be different for each person) for Max. An account for the scopal properties just described follows from the rule of free adjunction and the Scopal Principle. In (10), the LF of (9), the wh-operator governs the quantifier; so these operators, given the SP, can engage in free scopal relations.

(10) $[_S$ what$_2$ $[_S$ everyone$_3$ $[e_3$ $[_{VP}$ e_2 $[_{VP}$ buy e_2 for Max]]]]]

LF (10) then is a logical representation that is well-formed, because it satisfies the ECP, and that permits scopal ambiguity under the Scopal Principle.

Besides arguing for the SP and for free operator adjunction, May (1986) also argues that the ECP should be replaced by the Path Containment Condition (PCC). May notes that the ECP makes several incorrect, grammatical predictions. For one, the ECP incorrectly predicts a scopal difference between (11a) and (11b); it predicts that (11a) should permit ambiguity but (11b) should not, since the subject-trace is properly governed in (11a) but not in (11b).

(11a) Who do you think everyone saw at the rally

(11b) Who do you think that everyone saw at the rally

For another, because the wh-traces created by LF-movement of the wh-operators in (12a) and (12b) are all properly governed, (12a) and (12b) should both be well-formed. However, there is an obvious difference in the grammaticality of the sentences.

(12a) ?Whom did you tell that Harry saw who

(12b) *Who did you tell whom that Harry saw

May accounts for the fact that both sentences in (11) are ambiguous by replacing the empirically inadequate ECP with Pesetsky's Path Containment Condition (13).

(13) Path Containment Condition (PCC).
Intersecting A'-categorial paths must embed, not overlap--
Where a path is a set of occurrences of successively immediately dominating categorial nodes connecting a binder to a bindee.

Opposed to the ECP, the PCC allows the rule of free operator adjunction to derive LF-representations (14a) and (14b), the LFs of (11a) and (11b) respectively.

(14a) $[_S$ who$_2$ $[_{S^4}$ everyone$_3$ $[_{S^3}$ you think $[_{S^2}$ e_3 $[_{VP}$saw e_2 at the rally]]]]]
Path(2) = {VP, S^2, S^3, S^4, S'}
Path(3) = { S^2, S^3, S^4 }

(14b) $[_{S'}$who$_2[_{S^4}$ everyone$_3$ $[_{S^3}$ you think $[_{S'}$that$[_{S^2}$ $e_3[_{VP}$saw e_2 at the rally]]]]]]
Path(2) = {VP,S^2,S',S^3,S^4,S'}
Path(3) = { S^2,S',S^3,S^4 }

(Note: read Path(n) as the path for Operator$_n$.) In (14a,b), Path(3) embeds in Path(2). Therefore, according to the PCC, these LF-representations are well-formed. Notice that (14a) and (14b) make the same prediction about scopal relations. That is, since the wh-operator governs the quantifier in both of LF-representations specified in (14), the Scope Principle predicts that both LFs allow free scopal relations between the operators. The PCC, then, can account for data that escapes the ECP.

Of equal importance to the fact that the PCC explains data that resists the ECP is the fact that the PCC can account for all the data that the ECP serves to explain. In particular, the PCC, like the ECP, distinguishes (2a) from (2b)--repeated here as (15 a,b).

(15a) $[_{S^4}$ every woman$_3[_{S^3}$ some man$_2[_{S^2}$ $e_2[_{VP}$loves $e_3]]]]$

(15b) $[_{S^4}$ some man$_2[_{S^3}$ every woman$_3[_{S^2}$ $e_2[_{VP}$loves $e_3]]]]$

The paths for (15a) are stated in (16).

(16) Path(2) = { S^2,S^3 }
Path(3) = {VP,S^2,S^3,S^4}

LF (15a) is well-formed because its paths satisfy the PCC; that is, Path(2) is properly embedded in Path(3). The paths for (15b), on the other hand, violate the PCC. (17)--which defines the paths for (15b)--shows that the paths intersect; however, they overlap rather than embed.

(17) Path(2) = { S^2,S^3,S^4}
Path(3) = {VP,S^2,S^3 }

Consequently, in accordance with the PCC, (15b) is an ill-formed LF-representation.

The PCC also makes correct predictions about the scopal differences between (6) and (9), repeated here in (18).

(18a) Who bought everything for Max.

(18b) What did everyone buy for Max

The LF-representation derived by operator adjunction for (18b) is expressed in (19).

(19) $[_{S'}\text{what}_2[_{S^3}\text{ everyone}_3[_{S^2}\ e_3\ [_{VP}\text{buy}\ e_2\ \text{for Max}]]]]$
Path(2) = {VP, S^2, S^3, S'}
Path(3) = { S^2, S^3 }

LF (19) is well-formed; its paths satisfy the PCC because they embed. (Note the wh-operator governs the quantifier, in (19), so the ambiguity of (18b) follows from the SP.) Further, operator adjunction forms two possible LF-structures for (18a). These LFs are given in (20).

(20a) $[_{S'}\text{who}_2[_{S^3}\text{ everything}_3[_{S^2}\ e_2\ [_{VP}\text{buy}\ e_3\ \text{for Max}]]]]$
Path(2) = { S^2, S^3, S'}
Path(3) = {VP, S^2, S^3 }

(20b) $[_{S'}\text{who}_2[_{S}\ e_2\ [_{VP}\text{ everything}_3[_{VP}\text{buy}\ e_3\ \text{for Max}]]]]$
Path(2) = { S, S'}
Path(3) = {VP, VP }

Of the two LF-structures, only one--(20b)--is an acceptable LF. (20a) is an ungrammatical LF because its paths overlap, in violation of the PCC. On the other hand, the paths in (20b) vacuously satisfy the PCC; they do not intersect so the PCC does not rule them out. Since (18a) has (20b) as its logical representation, the SP applies to (20b) predicting correctly that, given the fact that a VP-boundary separates the wh-operator and the quantifier, (18a) has scopal ambiguity.

Some Consequences of May's Theory of Logical Form

In this section, I will apply May's theory as outlined above to sentences with VPs that take multiple arguments. I will show that, under May's analysis, such VPs must be binary branching structures.[3]

Let us consider a multiple-argument predicate like read. In sentences such as (21) the operators/arguments of the verb have ambiguous scope. These scopal relations result from the application of the SP to (22), an LF-repesentation of (21).[4]

(21) What did John read to everyone

(22) $[_{S'}\text{what}_2[_{S^3}\text{ everyone}_3[_{S^2}\text{ John }[_{VP}\text{ read } e_3$ to $e_2]]]]$
Path(2) = {VP, S^2, S^3, S'}
Path(3) = {VP, S^2, S^3 }

Now (22), which is a well-formed LF because it satisfies the PCC, gives the VP a nonbinary branching structure. Yet, it is also possible to give a binary branching structure for the VP, as in (23).

(23) $[_{S'}\text{what}_2[_{S^3}\text{ everyone}_3\ [_{S^2}\text{ John }[_{V''}\ [_{V'}\text{read } e_3]$ to $e_2]]]]$
a. Path(2) = {VP, S^2, S^3, S'}
Path(3) = {VP, S^2, S^3 }
b. Path(2) = {V' , V'', S^2, S^3, S'}
Path(3) = { V'', S^2, S^3 }

As (23) demonstrates, a binary branching structure for the VP, regardless of whether it is assumed that only maximal categorial nodes are specified in a path or that all categorial nodes are so specified, also produces a well-formed LF-structure.[5] So (23a,b), like (22), not only satisfies the PCC--since Path(3) is embedded in Path(2) in both path-structures stated in (23)--but also permits the SP to account for the ambiguous readings assignable to (21).

To decide which, if any, of the three logical representations that we have considered should be the logical form of (21), we need to examine other evidence. Relevant evidence comes from (24).

(24) Who did John read everything to?

Interestingly, (24) differs from (21) in that it is not ambiguous. ((24) only has the reading where the wh-operator has broad scope over the quantifier.) If (24) is assigned an LF parallell to (21)--one in which the VP has a nonbinary branching structure--then the following LF-structure can be derived for (24).[6]

(25) $[_{S'}\text{who}_2[_{S^3}\text{ everything}_3\ [_{S^2}\text{ John }[_{VP}\text{read } e_3$ to $e_2]]]]$
Path(2) = {VP, S^2, S^3, S'}
Path(3) = {VP, S^2, S^3 }

This LF-representation is perfectly grammatical: its paths fulfill the PCC. However, being well-formed, (25) allows the SP to apply to it with the consequence that, since the wh-operator governs the quantifier, (24) is predicted to be

ambiguous. Obviously, such a consequence is undesirable. If, however, we assume that the VP must binary branch and that only major phrasal nodes are listed in a path-set, we can derive LF (26).

(26) $[_{S'}\text{who}_2[_S \text{everything}_3[_S \text{John } [_{V''}[_{V'}\text{read } e_3] \text{ to } e_2]]]]]$
Path(2) = {V'',S^2,S^3,S'}
Path(3) = {V'',S^2,S^3 }

(26), unfortunately, leads to the same conclusion that (25) does. That is, (26) is a grammatical LF-representation that predicts that (24) should have ambiguous scopal readings. But, if we assume that the VP must binary branch and that all phrasal nodes are specified within a path-set, we can derive the following LFs for (24).

(27a) $[_{S'}\text{who}_2[_{S^3} \text{everything}_3[_{S^2} \text{John } [_{V''}[_{V'}\text{read } e_3] \text{ to } e_3]]]]$
Path(2) = { V'',S^2,S^3,S'}
Path(3) = {V',V'',S^2,S^3 }

(27b) $[_{S'}\text{who}_2[_S\text{John } [_{V''2} \text{everything}_3[_{V''1} [_{V'} \text{read } e_3] \text{ to } e_2]]]]]$
Path(2) = { V''^1,V''^2,S,S'}
Path(3) = {V', V''^1,V''^2 }

(27c) $[_{S'}\text{who}_2[_S\text{John } [_{V''}[_{V'2} \text{everything}_3 [_{V'1} \text{read } e_3]] \text{ to } e_3]]]$
Path(2) = { V'',S,S'}
Path(3) = {V'^1,V'^2 }

LFs (27a,b) are ungrammatical. The paths in these LF-structures violate the PCC because Path(2) intersects and overlaps with Path(3). So neither (27a) nor (27b) is a possible LF-structure for (24). (This an important result because if either of these LFs would be well-formed they would incorrectly predict that (24) should allow free scopal relations.) (27c), on the other hand, does not violate the PCC. The paths of (27c) do not intersect; therefore, they vacuously satisfy the PCC. This means that (27c) is a grammatical logical representation of (24). Further, because (27c) is a possible LF-structure for (24), the Scope Principle can apply to it. When we apply the SP to (27c), we discover that the wh-operator does not govern the quantifier (the intervening V''-node, as a boundary of a maximal projection, prohibits government). In accordance with the SP, the operators can only have configurationally defined scope--a correct prediction.

The PCC, then, forces us to analyze the structure of

VPs headed by verbs subcategorized for multiple arguments in terms of binary branching structures.

Further Consequences of the PCC

An interesting consequence of May's theory of Logical Form concerns the structural relationship between adjuncts and VPs. Cosider the scopal relations between the adjunct when and the quantifier everyone in (28).

(28) When did John see everyone

In (28), either operator can have broad scope. This is confirmed by the fact that (29a) and (29b) can be acceptable responses to (28).

(29a) John saw everyone yesterday.

(29b) John saw Mary a week ago; he saw Sarah yesterday; and he saw Bill earlier this morning.

To account for the ambiguity of (28), there must be an LF-representation of (28) that satisfies two conditions. First, since the wh-operator is in the COMP-node at LF, the quantifier must be able to escape the VP-node that dominates it to insure that the VP-node will not prevent the wh-operator from governing the quantifier (thereby preventing free scopal relations). Second, the PCC must be met. Satisfying the PCC, however, can be accomplished in two ways: either the operator paths do not intersect or they are properly embedded. The former case arises in LF (30).

(30) $[_{S'}$ when$_3$ $[_{S^4}$ $[_{S^3}$ everyone$_2$ $[_{S^2}$ John $[_{VP}$ kiss $e_2]]]$ $e_3]]$
Path(2) = {VP, S^2, S^3 }
Path(3) = { S^4, S'}

In (30), the adjunct when is an adjunct of S^4, a node created at LF-structure (only this type of LF-representation will guarantee that the adjunct-path will not intersect with the quantifier-path). The adjunct, then, would be only an LF-argument--a possibility not compatible with current theories of predication.[7] The second case necessitates that the path of the adjunct-operator includes the path of the quantifier. That is, the path of when must include the VP-node that dominates the quantifier trace. The adjunct, therefore, must be a within the VP, not outside of it. Such conditions are captured in LF (31).

(31) $[_S$ when$_3$ $[_{S3}$ everyone$_2$ $[_{S2}$ John $[_{VP}$ kiss e_2 $e_3]]]]$
Path(2) = {VP, S^2, S^3 }
Path(3) = {VP, S^2, S^3, S'}

Notice that (31) is not only a well-formed logical representation for (28) because its paths properly embed but also a logical representation that predicts that the logical operators in (28) have free scopal relations.

To decide whether (30) or (31) (or both) is the correct representation for (28), we need to cosider further empirical data. Relevant data is provided in (32).

(32) Who saw what where

Assuming that the adjunct is an S-adjunct and assuming, as do May (1986) and Chomsky (1985), that wh-in-situ elements are moved into the COMP at the LF-level, we can derive LF (33) for (32).[8]

(33) $[_S$ $[_{NP}$ what$_2$ where$_3$ $]$who$_4$ $][_{S3}$ $[_{S2}$ $e_4[_{VP}$ see $e_2]]e_3]]$
Path(2) = {VP, S^2, S^3, S', NP}
Path(3) = { S^3, S', NP}
Path(4) = { S^2, S^3, S' }

In (33), Path(3) and Path(4) intersect but they do not embed. Consequently, this logical representation is an ill-formed LF- representation because it violates the PCC. If we assume that the adjunct is a constituent of the VP, rather than an adjunct to S, we derive LF (34) for (32).

(34) $[_S$ $[_{NP}$ what$_2$ where$_3$ $]$who$_4$ $][_S$ e_4 $[_{VP}$ see e_2 $e_3]]]$
Path(2) = {VP, S, S', NP}
Path(3) = {VP, S, S', NP}
Path(4) = { S, S' }

Since all the paths embed in (34), LF (34) satisfies the PCC and is, therefore, a well-formed logical representation if (32). The consequence of the above argument is that adjuncts, at least at the LF-level, are within the verb phrase.

Given that our previous arguments demonstrate that VPs have binary branching structures for the arguments of V, the question arises: what is the branching relationship between adjuncts and subcategorized arguments within the VPs? Sentences that immediately bear upon this question are:

(35a) When did Mary read a book to everyone?

(35b) When did Bill tell everyone about Mary's problem?

(35c) When did Mary send everyone's paycheck to him?

That the operators in (35) engage in free scopal relations--see (36) for an example of a broad scope reading assigned to the quantifier in (35b)--suggests that the adjunct is at least as deeply embedded in the VP as is the argument most proximate to the verb.

(36) Bill told Sally about Mary's problem yesterday; he told Tom about it today; and he told Jean about it just minutes ago.

This is the case because if the adjunct were not as deeply embedded as is the direct object in (35a), the paths for the quantifier and the wh-operator would overlap, as (37b) demonstrates.

(37a) $[_{S'}$when$_2[_{S}3$ everyone$_3[_{S}2$ Bill $[_{V''}$ $[_{V'}$ tell e_2 $e_3]$ about Mary's problem]]]]
Path(2) = {V',V",S^2,S^3,S'}
Path(3) = {V',V",S^2,S^3 }

(37b) $[_{S'}$when$_2[_{S}3$ everyone$_3[_{S}2$ Bill $[_{V''}$ $[_{V'}$ tell $e_3]$ e_2 about Mary's problem]]]]
Path(2) = { V",S^2,S^3,S'}
Path(3) = {V',V",S^2,S^3 }

Note that as represented the paths in (37a), which assume that the adjunct is as embedded as the direct object, satisfy the PCC. However, if the adjunct is higher in the VP-node than is the direct object, as in (37b), then Path(3) = {V",S^2,S^3,S'}. In this case, the paths will intersect and not embed, in violation of the PCC. It follows therefore that adjuncts, which are constituents of VPs, must be as proximate to the verb as is the closest argument of the verb at LF-structure. The above condition on VP-structure produces two possible logical representations for verb phrases: one in which the adjunct and the closest argument are sisters and one in which the adjunct is a sister to the verb alone. These VP-structures are given in (38).

(38a) $[_{VP}$ $[_{V'}$ V adjunct] NP]

(38b) $[_{VP}$ $[_{V'}$ V adjunct NP]]

The LF-representations in (38) make very different predictions about multiple-wh constructions, so they can be

tested for empirical adequacy. (38b) predicts that sentences formed by moving a wh-object and leaving the wh-adjunct in-situ at S-structure will be as grammatical as sentences formed by moving the wh-adjunct and leaving the wh-object in-situ because both types of sentences will have logical representations that meet the PCC. That is, the LF-representations derived from multiple-wh constructions based on (38b) are either (39a) or (39b), both of which are well-formed.

(39a) $[_{S'}[_{NP}[\text{wh-adjunct}_2]\text{wh-NP}_3][_S \ldots [_{VP}[_{V'}\ V\ e_3\ e_2]]]]$
Path(2) = {V',VP,S,S',NP}
Path(3) = {V',VP,S,S' }

(39b) $[_{S'}[_{NP}[\text{wh-NP}_3]\text{wh-adjunct}_2][_S \ldots [_{VP}[_{V'}\ V\ e_3\ e_2]]]]$
Path(2) = {V',VP,S,S'}
Path(3) = {V',VP,S,S',NP]

Since the paths in (39a) and (39b) intersect and embed, either type of multiple-wh construction under consideration is predicted to be well-formed.

LF (38a) makes different predictions about multiple-wh constructions than does (38b). It predicts that multiple-wh constructions with the wh-object in-situ should violate the PCC, but such constructions with the wh-adjunct in-situ should satisfy the PCC. This can be seen by examining the paths for the two constructions under consideration, as given in (40).

(40a) $[_{S'}[_{NP}[\text{wh-adjunct}_2]\text{wh-NP}_3][_S \ldots [_{VP}[_{V'}\ V\ e_2]\ e_3]]]$
Path(2) = {V',VP,S,S'NP}
Path(3) = { VP,S,S' }

(40b) $[_{S'}[_{NP}[\text{wh-NP}_3]\text{wh-adjunct}_2][_S \ldots [_{VP}[_{V'}\ V\ e_2]\ e_3]]]$
Path(2) = {V',VP,S,S' }
Path(3) = { VP,S,S',NP}

LF (40a) satisfies the PCC: its paths properly embed. LF (40b), on the other hand, has paths that intersect and overlap--a PCC violation. So, if the logical representation for multiple-wh constructions is as stated in (38a), then such constructions are predicted to be grammatical if the wh-adjunct is left in-situ at S-structure and to be ungrammatical if the wh-object is left in-situ at S-structure. The above predictions can be tested by the data presented in (41).

(41a) ?Why did John buy what

(41b) *What did John buy why

(41c) ?When did John buy what

(41d) *What did John buy when

Now if the VP-structure is as expressed in (38b), there should be no grammatical distinction between (41a) and (41b) nor between (41c) and (41d). The fact that there is a grammatical difference between these pairs suggests that (38b) does not represent the logical structure of VPs. On the other hand, if the VP-structure at LF is the structure expressed in (38a), then we should expect the construction with the wh-adjunct in-situ to be well-formed and the construction with the wh-object in-situ to be ill-formed. Interestingly, the data does not support this prediction either: the data is exactly opposite of what it is predicted to be.

A Re-analysis of Multiple-Wh Constructions

The above results force a re-examination of our earlier assumptions (after all, at least one of our assumptions must be incorrect or we would have one of our predictions supported by, rather than both of them contradicted by, the data). I will argue here that the questionable assumption is the assumption that wh-in-situ elements move into COMP at LF (note: I am only challenging this assumption for languages that permit wh-movement as S-structure). I will argue that wh-in-situ elements remain in-situ at LF where they function as dependent, lexical variables.

If wh-in-situ elements do indeed move at LF, then we would predict that the wh-operator moved at S-structure and the wh-operator moved at LF in multiple-wh constructions would engage in free scopal relations, in accordance with the Scope Principle. We can see that this is predicted by examining the LF of (42)--which is stated in (43).

(42) Which man was kissing which woman

(43) $[_{S'}[_{NP}[\text{which woman}_2]\text{which man}_3][_S\ e_3\ [_{VP}\ \text{kiss}\ e_2]]]$

LF (43) shows that under the assumption that wh-in-situ elements move at LF the wh-operators govern one another; therefore they should have free scopal relations.

Now let us consider possible responses to (42) in order to check how free the scopal relations in it really are. Note the answers given to (42) in (44).

(44a) John was kissing Mary; Bill was kissing Sue; but Tom was kissing no woman.

(44b) ?*John was kissing Mary; Bill was kissing Sue; but no man was kissing Sarah.

We can see that (44b), as a response to (42), is much worse than (44a) is. This difference is unexpected if (43) is the LF of (42). After all, LF (43) predicts that the order and the way in which the wh-arguments are instantiated should not affect grammaticality--a prediction not compatible with the evidence given in (44).

An LF-representation for (42), such as (45), that keeps the unmoved wh-elements in-situ at LF makes different predictions about grammatical responses to (42) than (43) does.

(45) $[_S$ which man$_2$ $[_S$ e_2 $[_{VP}$ kiss which woman$_3$]]]

In (45), Wh_2 and Wh_3 are not both independent operators that can freely choose their referents. Rather, only Wh_2 is an operator; so only Wh_2 can freely pick a referent or a non-referent (for example, no man). Wh_3, on the other hand, is a dependent variable--a variable licensed for a referent if and only if it is bound to a wh-operator that has chosen a referent (as opposed to choosing a non-referent). (Note that the assumption that wh-in situ expressions are variables dependent on a wh-operator will explain why the absence of a wh-operator in sentences such as "I love who" are uninterpretable on the non-echoic reading.) LF (45) then predicts that if Wh_2 selects a referent then Wh_3 can freely choose a referent or a non-referent; but if Wh_2 does not select a referent, then Wh_3 cannot choose a referent independently. So (45) predicts the following grammaticality judgments about responses to (42).

(46a) No man was kissing any woman

(46b) *No man was kissing Mary

(46c) John was kissing Mary

(46d) John was not kissing any woman

(46e) Every man wasn't kissing any woman

(46f) *No man was kissing every woman

The fact that the judgments predicted by (45) accord with accepted intuitions about responses to (42), while (43) has no way of differentiating the various responses cited in (46), suggests that (45)--a logical representation that leaves wh-elements in-situ at LF--has more empirical validity than does (43).

A second argument in support of my wh-in-situ analysis involves scopal relations between conjoined wh-phrases and other logical operators. Consider (47).

(47) Which man and which woman was some child dancing with

Example (47) is two-ways ambiguous, having the readings given in (48).

(48a) For some child x, which man y and which woman z are such that x was dancing with x and y

(48b) For which man y is there some child x_1 and for which woman z is there some child x_2 such that x_1 loves y and x_2 loves z.

The scopal ambiguity of (47), as captured in (48), follows from May's theory of scope assignment. In May's theory, (47) has LF (49).

(49) $[_S$ which man and which woman$_2$ $[_S$some child$_3[_S e_3$ was dancing with $e_2]]$

Since the conjoined wh-operators govern the quantifier, free scopal relations arise between the logical operators. (Note: the reading of (47) given in (48b) follows from a principle of operator distribution developed in Barwise and Cooper (1981). They demonstrate that connected operators that have wide scope over another operator distribute. This can be represented formally: $(O_1 \bullet O_2)O_3 = O_1O_3 \bullet O_2\ O_3$. Hence in (49), the wide scope reading for the conjoined wh-operators (i.e., (Which man and which woman) (some child)) is equivalent to the reading given in (48b): ((which man)(some child) and (which woman)(some child).) Now if wh-in-situ element move at LF, then we would expect (50) to have the same scopal ambiguities as does (47).

(50) Which child loves which man and which woman

Notice that LF (51)--the LF for (50) in the move-wh at LF analysis--has the same government relation between the conjoined wh-operators and Wh_3 as (49) has between the conjoined wh-operators and the quantifier.

(51) $[_S[_{NP}$[which man and which child$_2$] which child$_3$$][_S$ e$_3$ loves e$_2$]]

Since (49) and (51) have the same government relations between operators, we would predict that they should have the same range of readings. (50), however, does not have all the scopal possibilities of (47). It lacks (52), the equivalent of (48b).

(52) Which man y for which child x_1 and which woman z for which child x_2 are such that x_1 loves y and x_2 loves z

The move-wh at LF analysis, then, overgenerates scopal possibilities and, therefore, needs to be questioned.

A better analysis of (50) is one that assumes that wh-in-situ elements do not move at LF. This analysis would give LF-representation (53) to (50).

(53) $[_S$'which child$_2$ $[_S$e$_2$ $[_{VP}$loves which man and which woman]]]

LF (53) does not permit ambiguous scopal relations because it has but one operator--this necessarily prohibits a multiplicity of scopal configurations. The only reading that (53) allows then is the reading in which the wh-operator first selects its referent and subsequently the wh-variable makes a referent choice. So possible answers to (50) consists of a set of order pairs <which child, which man and which woman>, where the value of the first member of the ordered pair determines the value of the second member of the pair. But such answers, as predicted by (53), are the only answers to (50) that are well-formed. Although the wh-in-situ at LF analysis does account for scopal data (especially (47) and (50)) that resist the move-wh at LF analysis, there does appear to be some evidence in support of the latter analysis. In particular, sentences such as (54) seem to have scopal relations determined by a rule that moves wh-elements at LF.

(54) Who took everyone to which restaurant

The fact that the wh-operators both have scope over the

quantifier is explained by (55), an LF-representation formed by the general move-Wh rule.

(55) $[_{S'}[_{NP}$[which restaurant$_2$]who$_3$]$[_S$ e$_3$ $[_{VP}$ everyone$_4$ [take e$_4$ to e$_2$]]]]

Since there is a VP-boundary between the quantifier and the wh-operators, the Scope Principle correctly permits only configurationally defined scope.

The success that the move-wh analysis has in explaining the scopal relations of (54), however, does not carry over to other types of multiple operator structures. Consider (56), which under May's analysis has LF (57).

(56) Which book did everyone read to which boy and which girl

(57) $[_{S'}[_{NP}$[which boy and which girl] $_2$which book$_3$]$[_S$everyone$_4$$[_S$ e$_4$ read e$_3$ to e$_2$]]]

Given that the operators in (57) govern one another, (57) in accordance with the SP permits free scopal relations between the operators. May's analysis, then, predicts that all the sentences in (58) could be well-formed responses to (56).

(58a) Everyone read the Bible to John and Mary

(58b) Peter read the Bible to John and Mary; and Sarah read the Koran to Jean and Harry

(58c) ?*Peter read the Bible to John and Mary; and Sarah read it to Jean and Harry.

(58d) *Peter read the Bible to John and Mary; and Sarah read the Koran to them

Two of the above responses--(58a), where the the wh-elements have broad scope over the quantifier, and (58b), where the quantifier has broad scope over the wh-elements--are well formed. The other two responses, where the quantifier has narrow scope with respect to one wh-element and broad scope with respect to the other wh-element, are less well-formed and perhaps even ill-formed. Since the data in (58) contradict the predictions made by LF (57), a logical representation that employs the general move-wh rule, there is reason to suspect that wh-movement at LF is not a permissable rule.

Unlike May's move-wh analysis of logical form, an

analysis that assumes that wh-in-situ elements remain in-situ at LF can account for the scopal relations of both (54) and (56). If wh-in-situ elements are lexicalized LF-variables that are value-dependent upon the value selected by a wh-operator and are not independent operators, then (54) will have LF (59).

(59) $[_S$ who$_2$ $[_S e_2$ $[_{VP}$ everyone$_3$ $[_{VP}$ [take e_3] to which restaurant]]]]

Notice that since the wh-in-situ element is not an operator, it does not directly participate in scopal relations. Rather, as a dependent variable, its scope is a function of the scope of the wh-operator upon which it is value-dependent. Consequently, the fact that the wh-operator in (59) has broad scope over the quantifier necessitates that the in-situ variable also has scope over the quantifier (hence, this analysis correctly predicts the scopal relations in (54)). This analysis naturally extends to account for the scopal relations in (56). That is, because the in-situ wh-elements have their value attached to the wh-operator in LF (60), they must indirectly have the same scopal relations with respect to the quantifier as does the wh-operator.

(60) $[_S$ which book$_2$ $[_S$ everyone$_3$ $[_S$ e_3 $[_{VP}$ [read e_2] to which boy and which girl]]]]

In (60), then, the only scopal relations possible are the relations between the quantifier and which book, and these relations are free because the wh-operator governs the quantifier. Further, the in-situ wh-elements, which are variables that do not overtly participate in scopal relations, have their values set by the wh-operator. By having their values set by the wh-operator, the in-situ wh-elements indirectly absorb the scopal relations of the wh-operator. Therefore, the wh-elements all either have broad scope or narrow scope with respect to the quantifier, but they cannot have mixed scope, as in (58c,d). The possible scopal relations in (54) and in (56), then, accord with the predictions this analysis makes about scope.

Disallowing the general move-wh rule complicates my analysis of VP-structure. After all, I have appealed to multiple-wh structures to motivate the assumption that VP-adjunctions are VP-internal and to argue that such adjuncts are in fact more proximate to the verb at LF than the subcategorized arguments of the verb are. Without move-wh as a general rule, multiple-wh constructions can no longer be enlisted as evidence to show what VP-structures the PCC mandates. In what follows, I will introduce new

evidence to support my claims that (i) VP-adjuncts are VP-internal and (ii) these adjuncts are sister-related to V at LF.

VP-structure Revisited

There two types of data that support the claim that VP-adjuncts are VP-internal: binding data and VP-deletion data. Some evidence in support of the above claim comes from the binding relations involving R(eferential)-expressions. In the Government and Binding framework, Binding Principle C states that an R-expression must be A-free.[9] This means that an R-expression cannot be coindexed with any element that c-commands it from an A-position. Principle C, then, predicts the binding in (61).

(61a) John broke (only) the piano$_i$ when he dropped it$_i$

(61b) His$_i$ mother loves (only) John$_i$

(61c) *He$_i$ loves (only) John's mother

Binding between the piano and it in (61a) is well-formed, in part, because Principle C is satisfied. That is, since the c-command domain of the pronoun lies within the adjunct-clause, the pronoun does not c-command the R-expression John; so John is A-free. The binding relations specified in (61b) are also well-formed because the pronoun, which has its c-command domain restricted to the NP of which it is a constituent, does not c-command John, thereby preserving Principle C. Opposed to the binding relations illustrated in (61a,b), the binding relations in (61c) are ungrammatical. The pronoun in this sentence has as its c-command domain the entire S; consequently, John is coindexed with and c-commanded by an element in an A-position--an obvious violation of Principle C.

If we apply Principle C to sentences with VP-adjuncts, we can discover something about the structural relationship between adjuncts and verb phrases. Consider the sentences in (62).

(62a) *It amazed her$_i$ that (only) Mary$_i$ was elected

(62b) *John broke it$_i$ when he dropped (only) the piano$_i$

(62c) *John annoyed her$_i$ by talking to (only) Mary$_i$

(62d) *Mary gave it_i to John before she read (only) the $book_i$

The binding relations expressed in (62) are all ungrammatical. They are so, it can be argued, because they all violate Principle C. The Principle C violation in (62a) is obvious. Given that the VP-structure of (62a) is (63), with both the pronoun and the embedded S within the VP, it follows that since the R-expression Mary is inside the c-command domain of a pronoun that is both in an A-position and coindexed with the R-expression, the R-expression is not A-free.

(63) $[_{VP}$...her$_i$ that Mary$_i$...$]$

A similar explanation can be advanced for the binding violations in (62b-d) under the assumption that the adjunct lies within the VP. That is, if the structure of the matrix verb phrase is as stated in (64), then the pronoun, which occupies an A-position, will c-command and be coindexed with an R-expresion, in violation of Principle C.

(64) $[_{VP}$...it$_i$ when he dropped the piano$_i$$]$

If, on the other hand, it is assumed that the adjuncts in (62b-d) are not VP-internal, then the R-expression in the adjunct will not be in the c-command domain of the pronoun--as shown in (65)--and the binding relations expressed in these sentences should be grammatical.

(65) $[_S$...$[_{VP}$...it$_i$$][_S$ when he dropped the piano$_i$$]]$

So the ill-formedness of the binding relations in (62) follows only if it is assumed that the adjuncts lie within the VP.

Another binding argument in support of the VP-internal analysis of adjuncts concerns quantifier-pronoun binding. May argues that the binding relations in (66) follow from the PCC.

(66a) Everyone$_i$ loves his$_i$ mother

(66b) *His$_i$ mother loves everyone$_i$

May assigns the sentences in (66) LF-representations (67a,b), respectively.

(67a) $[_{S^3}$ everyone$_i$ $[_{S^2}$ e_i $[_{VP}$loves his$_i$ mother$]]]$
Path(e_i) = { S^2, S^3}

Path(his$_i$) = {VP,S^2,S^3}

(67b) [$_{S3}$ everyone$_i$ [$_{S2}$ [$_{NP}$ his$_i$ mother] [$_{VP}$ loves e$_i$]]]
Path(e$_i$) = {VP, S^2,S^3}
Path(his$_i$) = { NP,S^2,S^3}

LF (67a) is grammatical in May's analysis because the paths intersect and embed; and LF (67b) is ungrammatical because the paths intersect and overlap. The above analysis can apply to (68).

(68) Mary greeted every man$_i$ when he$_i$ first arrived

If we attempt to explain the well-formed binding relations stipulated in (68) by assuming a logical representation in which the adjunct lies outside the VP, we will posit the following LF.

(69) [$_{S3}$ everyone$_i$ [$_{S2}$ Mary [$_{VP}$greeted e$_i$] [$_{S*}$he$_i$...]]]
Path(e$_i$) = { VP,S^2,S^3}
Path(he$_i$) = {S*, S^2,S^3}

If, however, we assume that the adjunct is VP-internal, we will posit LF (70).

(70) [$_{S3}$ everyone$_i$ [$_{S2}$ Mary [$_{VP}$ greeted e$_i$ [$_{S*}$ he$_i$...]]]]
Path(e$_i$) = { VP,S^2,S^3}
Path(he$_i$) = {S*,VP,S^2,S^3]

Of the two possible LFs, only one--(70)--is well-formed. That is, (69) is an ungrammatical representation because its paths violate the PCC, and (70) is a grammatical representation because its paths satisfy the PCC. Therefore, binding relations in (68) are correctly captured only if it assumed that the adjunct is VP-internal at the level of Logical Form.

The second type of data that supports the claim that adjuncts are VP-internal involves data from VP-deletion. Since VP-deletion is considered a good test of VP-constituency, we can employ such deletion data to determine whether an adjunct does indeed lie within a verb phrase. The relation between VP-structure and VP-deletion can be observed in (71).

(71a) John saw Mary and so did Sue e

(71b) John kissed Mary yesterday but he didn't e today

Current analyses of VP-deletion data would argue that what is missing/deleted in the sentences in (71) are those constituents that comprise the verb phrase. So in (71a), the empty element e must have as its antecedent the VP of the first conjunct (giving the reading for the second conjunct that 'Sue [saw Mary]'). And in (71b), the fact that today can be appended to the second conjunct suggests that yesterday is not part of the first VP (or else the reading of the second conjunct would be: 'he didn't [kiss Mary yesterday] today').

That the deleted elements in VP-deletion sentences consist only of VP-constituents allows us to use such sentences to test whether or not adjuncts are VP-internal. To this end, consider (72).

(72) John kicked the dog because he hated it and so did Bill e

Interestingly, what the second conjunct in (72) can mean is that 'Bill kicked the dog because he hated it'; what it cannot mean is simply that 'Bill kicked the dog.' (72) suggests that the empty element e includes within it the because-adjunct. Hence, the adjunct is VP-internal. This preliminary conclusion can be tested further.

(73a) John didn't kiss Mary because he loved her but Bill did e

(73b) *John didn't kiss Mary because he loved her but Bill did e because he was told to

The sentences in (73) confirm our earlier conclusion. (73a), like (72), demands a reading in which the adjunct is included in e, thus re-inforcing the conclusion that adjuncts are VP-internal. And (73b) provides similar re-inforcement. That is, if we assume that the adjunct is outside the VP in (73b), then we will not be able to explain the ungrammaticality of the sentence (because the second conjunct could have the grammatical reading 'Bill did [$_{VP}$ kiss Mary] because he was told to'). However, if the adjunct is VP-internal, then the ungrammaticality of (73b) follows from the Projection Principle, which will disallow (74)--the reading of (73b) in which the adjunct lies within the VP--for the same reason that it probibits (76): for having too many arguments.

(74) *Bill did [$_{VP}$ [kiss Mary because he loved her] because he was told to]

(75) *John kissed Mary the sofa

VP-deletion data like binding data, then supports the assumption that adjuncts are VP-internal.

Granting that adjuncts are VP-internal leads to the question: what structural relations are there between the adjunct and the other constituents of a verb phrase. I will argue here that adjuncts form part of the predicate, being adjoined to (i.e., modifying) the verb before the subcategorized arguments of the verb are adjoined to it. Since my claim that adjuncts have a closer logical relationship with the verb than do the arguments of the verb is extremely controversial, I will offer several (four) arguments for it.[10]

The first argument in support of the above claim is provided by Williams' (1977) VP Rule. This rule allows all the constituents of V' (V and its sisters) to be deleted. The examples in (76) show the effect ot the VP Rule.

(76a) Who sent a flower to whom
John did to Mary

(76b) Who sent Mary what
*John did a flower

Example (76a) demonstrates that if the complete V'-constituency (send a flower, in this case) is deleted, the remaining structure can function as a well-formed response to the given question. And (76b) demonstrates that if only part of V' is deleted (see Wilkins and Cullicover (1984) for arguments that both NPs are sisters of the verb), then the remaining structure is ungrammatical. So all the constituents of V' must be deleted to form a grammatical structure. The VP Rule then provides a test for V'-constituency. Consequently, by applying the VP Rule to sentences with VP-adjuncts, we can determine whether or not an adjunct forms a constituent with a verb. Consider (77).

(77a) Who kissed whom after the election results were announced
John did Mary.

(77b) Who was celebrating with whom because the Astros won
John was with Mary

(77) reveals two facts about VP-structure. First, since the verb and the adjunct can undergo the VP Rule together in (75), we can tentatively conclude that they form a V' constituent. Second, that the VP-object can remain behind without leaving an ungrammatical structure suggests that the object is not part of the V'-constituent in (77). To be concluded from (77), then, is that the VP has structure (78) at LF.

(78) $[_{VP}\ [_{V'}$ V adjunct]NP-argument]

A second argument for structural representations like (78) involves binding data. Binding relations in (79) test VP-constituent structure.

(79a) Who did Mary give several books$_i$ to after she had read them$_i$

(79b) What movie would Mary take no man$_i$ to before she was properly introduced to him$_i$

(79c) What does Mary talk to every man$_i$ about just before she fires him$_i$

Assuming that adjuncts lie outside V' and recalling earlier arguments that in structures like (79) the quantifier must adjoin to V' (where V' now is defined as [V NP]), we posit LF (80) for (79).

(80) ...$[_{VP}\ [_{V'2}\ Q_i\ [_{V'1}$ V $e_i]]]$...$[_{S*}$...pronoun$_i$...]]
Path(e_i) = {V',V'}
Path(pronoun$_i$) = undefined
where Q_i is a quantifier and S* is the adjunct-clause

Since there is no path from pronoun$_i$ to Quantifier$_i$, Path(pronoun) is undefined; hence the pronoun is not properly bound. The examples in (79) then should be as ungrammatical as the example in (81a), where the undefined path from his$_i$ to the quantifier in (81b) makes the LF (81b) ungrammatical.

(81a) *Which movie did his$_i$ mother take everyone$_i$ to

(81b) $[_{S'}$which movie$_2$ $[_S$ his$_i$ mother $[_{VP}\ [_{V'}$ everyone$_i$ $[_{V'}$ take $e_i]]]$ to $e_2]]]$
Path(which) = { VP,S,S'}
Path(e_i) = {V' }
Path(his$_i$)= undefined

The fact that the sentences in (79) are grammatical under the stipulated binding relations, while the one in (81a) is not, suggests that Path(pronoun) in the LF for (79) cannot be undefined. To express a well-defined path Path(pronoun) for (79), we must assume that the adjunct lies within V'--this will allow the pronoun to form a path with the quantifier that it is coindexed with. From the above assumption, we can derive two well-formed logical representations for the sentences in (79).

(82a) ...[$_{VP}$ [$_{V'2}$ Q_i [$_{V'1}$ V e_i [$_{S*}$...pronoun$_i$...]...]]]
Path(e_i) = { V',V'}
Path(pronoun$_i$) = {S*,V',V'}

(82b) ...[$_{VP}$ [$_{V"2}$ Q_i [$_{V"1}$ [$_{V'}$ V [$_{S*}$...pronoun$_i$...]]
e_i]]]
Path(e_i) = { V',V",V"}
Path(pronoun$_i$) = {S*,V',V",V"}

Notice that both logical representations stated in (82) are grammatical: they both satisfy the PCC.

At this point in our argument, we have facilitated two possible logical structures for adjuncts: one where the adjunct is the sole sister of the verb (82b) and one where the adjunct shares V-sisterhood with the most proximate argument of the verb (82a). There are two types of evidence that can help decide between the variant logical representations. The first type of evidence comes from data generated by the VP Rule. As previously discussed, VP Deletion shows that (82a), an LF-representation in which a verb , its NP-object, and an adjunct are sister within a V'-constituent, is ill-formed and that an LF-representation, which has binary sisterhood as expressed in (82b), is well-formed. The second type of evidence comes from sentences that have multiple adjuncts. If (82a) is the correct representation, then all adjuncts must be sisters with the verb, with the most proximate argument of the verb, and with one another. If (82b), on the other hand, is the correct representation, then adjuncts need not be sisters with the NP-argument nor with one another; in fact, if VP-structure is binary in nature, it would be expected that adjucts would have a structure like: [$_{VP}$ [$_{V"}$ [$_{V'}$ V Adjunct$_1$] Adjunct$_2$] NP-object]]]. With these predictions in mind, let us consider (83) and some Gapping data associated with it, as illustrated in (84).

(83) John left after Mary returned because he was angry.

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(84a) and Bill e because he was sad

(84b) *and Bill e after Jean returned

Assuming the constituent structure [$_{V'}$ V Adjunct$_1$ Adjunct$_2$], we cannot explain why it is possible to gap only part of a constituent, as in (84a), nor why one ajunct can gap while the other one cannot, as in (84b). However, we can explain the differences in (84) by positing a structure where the adjuncts are not sisters and where the sisters are ordered as verbal modifiers. Such a structure, stated in (85), permits the gapping of the after-adjunct but not the because-adjunct because only the after-adjunct forms a constituent with the verb.

(85) [$_{V''}$ [$_{V'}$ V [after...]] [because...]]

There is a third argument in support of LF (78)--an argument drawn from the evidence presented in (86).

(86a) What did John read to Mary; and Bill, to Sue

(86b) Who did John read a poem to; and Bill, a novel to

Notice the different types of interpretations that are assigned to (86a) and (86b). In (86a), the wh-operator does not bind the wh-variable in the deleted constituent of the second conjunct. This is obvious from the responses that can be given to (86a).

(87a) The Bible.

(87b) John read the Bible to Mary and Bill read the Koran to Sue

(87b) demonstrates that the wh-operator can be instantiated differently for each conjunct in (86a); therefore, the operator does not bind both the wh-trace in the first conjunct and the variable in the gapped constituent of the second conjunct (V' is the gapped constituent and it consists of [V [$_{NP}$ e]], where is an empty argument of the verb--hence a variable). In (86b), on the other hand, the wh-operator does bind its trace in the first and the variable in the second conjunct. That such is indeed the case can be seen in responses to (88), where a response is acceptable only if the same value is given to the wh-trace in the first conjunct and the variable in the second conjunct.

(88a) Betty

(88b) ?*John read a poem to Betty and Bill read a novel to Sue

Before considering explanations for the interpretative differences between (86a) and (86b), let us observe some of the properties of the sentences in (86). First, notice that there are two empty elements in each sentence: a gapped verb and an empty NP--a fact that will be very important to an explanation of (86a). Second, note that since the variable in the second conjunct of the sentences is assigned an interpretation, it must be in the c-command domain of some operator (or else it would not be properly bound). Third, example (89) demonstrates that if there is not a variable in the second conjunct, the construction will not be grammatical.

(89a) *Who did Mary read a poem to and Sarah a novel to Jean

(89b) *What did Mary read to John and Sarah a poem to Mike

Fourth, from (90), we can observe that only a wh-operator can license the variable in the second conjunct.

(90) *John read a novel to someone and Bill, a poem to

With the forementioned properties in mind, an explanation for the interpretative differences between (86a) and (86b) can be given along the following lines. First, to explain the fact that the wh-operator binds the variable in the second conjunct in (86b), assume that the logical representation of (86b) has the variable within the c-command domain of the wh-operator. This condition is satisfied by structures such as (91) (we are ignoring the fact that (86b) is a gapping structure because the verb-gap is irrelevant to the binding of the variable).

(91) $[_{S'}\ wh_1\ [_S\ [_S \ldots e_1 \ldots]$ and $[_S \ldots t_1 \ldots]]]$
where e_1 is the wh-trace and t_1 is a variable in VP of the second conjunct.

From LF (91), it is possible to account for the fact that both empty elements are assigned the same interpretation in (86b) because they both are bound to the same operator. Second, to explain the binding in (86a), assume that the gapped constituent includes both the NP-variable and the verb. The object-variable would then be part of an empty constituent, as in (92).

(92) $[_{S'}\ wh_1\ [_S\ [_S \ldots [_{V'}$ read $e_1 \ldots]$ and $[_S \ldots [_{V'}\ e_V\ t_1] \ldots]]]$

(Note: I articulate the deleted elements in the gapped constituent in (92) rather than just the constituent itself--$[_{V'} e]$--because structures that are like (86) but do not have a variable present in the second conjunct are ill-formed: the examples in (89) show the necessity of having an NP- variable present in the second conjunct in order to have a grammatical structure.) Now although the variable in the gapped constituent is bound by the wh-operator, it cannot take its interpretation directly from the operator because the gapped element, of which the variable is a constituent, has to be bound to and take its interpretation from some antecedent, the V'-constituent in the first conjunct. Therefore, the gapped constituent in (92) must take as its antecedent $[_{V'}$ read e]. The interpretation given to V' in the second conjunct, then, has a variable in it that is not directly bound (again, the variable is bound in (92)--this explains the grammaticality of (86a)-- but it is not constrained in the interpretation it takes within the gapped V'-constituent). Consequently, the variable can be interpreted independent of its bound counterpart in the first conjunct.

Crucial to the concerns of this paper is not the claim that the variable in the second conjunct of (92) is a parameterized variable (an interesting claim in its own right) but the claim that the differences in the interpretations of (86a) and (86b) depend on the fact that the variable in the second conjunct is part of the gapped constituent. This latter claim, therefore, is one that needs further verification. Support for the claim under consideration comes from (93) and (94).

(93) ?Which book was John reading to Mary and Bill reading to Sue

Now if the free interpretation of the variable in (86a) is independent of the relationship between the gapped verb and the variable, then we would expect that in sentences like (93) (sentences without gapped verbs) the range of interpretation for the variable would be the same as it is in (86a). However, the variable in the second conjunct of (93) is interpreted like the varible in (86b), not like (86a). That is, in non-gapped sentences, the variable is directly bound to the wh-operator. We are forced to conclude then that the interpretation of the variable in (86a) is dependent upon its relationship with the verb. Further, the

claim that it is V'-gapping that is responsible for the interpretative differences in (86) can be tested by examples in which the V'-argument is not adjacent to the gapped verb; hence the argument cannot be said to be gapped with the verb. Such an example is provided in (94).

(94) ??Who did John talk to about Mary's problems and Jean to about Bill's problems

Notice that (94) is interpreted like (86b), not like (86a)--this can be seen in (95).

(95a) Sarah

(96a) ?*John talked to Benny about Mary' problems and Jean talked to Alice about Bill's problems

From (95), we see that only the response where the wh-operator binds both its trace and the variable is well-formed. So when the V'-argument is not adjacent to the verb and, therefore, not gapped with it, as in (94), the variable cannot have a parameterized interpretation.

Let us now assume that it is V'-gapping that explains the existence of the parameterized variable in sentences like (86). This assumption permits us to determine whether or not an adjunct is adjacent to the verb within the V'-constituent. Consider (96).

(96a) Why did John kiss Mary; and Bill, Sue

(96b) When did Mary kiss John; and Sue, Bill

(96c) Where did John meet Mary; and Bill, Sue

The sentences in (96) permit the same range of interpretations for their variables as (86a) does, with the variable in the second conjunct free to take a value different from the adjunct-trace in the first conjunct. This value differentiation is made obvious in responses to (96).

(97) John kissed Mary because he loved her and Bill kissed Sue because he was told to

Example (97) shows that the adjunct-variable is "free" to instantiate differently than the adjunct-trace. Given that V'-gapping is responsible for the readings in which the variable in the second conjunct takes parameterized values, we can conclude that the adjunct in (96) is a constituent of

V', more particularly an adjacent sister of V.

My fourth, and final, argument for LF-representations in which adjuncts are the most proximate arguments of a verb is taken from the data given in (98).

(98a) Why did John meet Mary before Bill did e Jean

(98b) Where did John meet Mary after Bill did e Jean

What needs to be explained in (98) is why the empty element in (98b) can include, within its interpretation, the wh-adjunct, while (98a) cannot do so with its wh-adjunct. It is possible to see these different interpretations more clearly when we recast (98) as (99).

(99a) *Why did John meet Mary before Bill met Jean for that reason

(99b) Where did John meet Mary before Bill met Jean there

Notice that in (99a) the wh-adjunct position cannot be filled in the adjunct-clause, but in (99b) the wh-adjunct can be filled in the adjunct-clause.

An explanation of the contrasts in (98) and (99) follows from a condition on the deletion of arguments in adjuncts. This condition can be extracted from the evidence in (100).

(100a) The book that Mary read to John before Bill did to Jean

(100b) ??The woman that Mary talked to about Tom's problem before Jean did to about Bill's problem

The examples in (100) demonstrate that, in adjuncts with deleted verbs, an argument of the verb can be deleted only if the if it is an adjacent sister of the verb. Given the above condition on deletion within an adjunct, we could hypothesize that the ungrammaticality of (99a) and the inability to assign a wh-adjunct reading to the VP within the adjunct-clause arises because the wh-adjuncts are not sisters of the verb. If we accept the above assumptions, we will posit the following logical representations for the VPs in (99).

(101a) [$_{VP}$ [$_{V''}$ [$_{V'}$ V before-adjunct] why-adjunct]]

(101b) [$_{VP}$ [$_{V''}$ [$_{V'}$ V where-adjunct] before-adjunct]]

Although the LFs in (101) are the LFs for the matrix VPs in (99), they are also the LFs for the VPs in the adjunct-clause. To see this, note that the before-clause cannot take a before-clause of its own--which is naturally explained if a before-clause is already present in adjunct-clause.

(102) *Where did John meet Mary before Bill did Jean before it rained

So the adjunct-clause VPs in (98), under the interpretations given in (99), have the same structure as do the matrix clauses: the structure expressed in (101). Given that the adjunct-clauses in (98) have the VP-structures stated in (101), we can explain the differences in interpretation between (98a) and (98b). In particular, since the wh-adjunct is not a sister with the verb in (101a), it cannot be deleted with the verb; therefore (98a) cannot have the why-adjunct present in the verb phrase of the adjunct-clause, explaining why (98a) lacks an interpretation that permits the why-adjunct to be part of adjunct-clause VP. Conversely, the deletion of the verb and its wh-adjunct is acceptable in (98b) because these two elements form a constituent. As a consequence, the verb phrase in the adjunct-clause of (98b) can be interpreted as including the wh-adjunct.

Additional support for the conclusions just derived can be found in multiple-wh constructions. The following sentences give the relevant evidence.

(103a) ?Who ate where when

(103b) ?*Who ate when where

(103c) ?Who ate when why

(103d) *Who ate why when

The fact that the ordering of the wh-elements in (103) is crucial to the well-formedness of the sentences suggests that these wh-elements cannot have equivalent logical relations with the verb. That is, (103a,b) show that structures are grammatical if <u>where</u> is more proximate to the verb than <u>when</u> is, but ungrammatical if <u>when</u> is more proximate than <u>where</u>. Similar results obtain for <u>where</u> and <u>why</u> in (103c,d). Importantly, the above relations are

exactly those predicted by (101).

The arguments that I have put forth in this section converge to the same point: VPs binary branch in such a way that their verbs accept arguments one at a time, beginning with all the adjuncts and ending with the NP-arguments. On some intuitive level, this conclusion seems correct. After all, in (104), the NP-object Mary seems more like the argument of the extended predicate see after Bill left, as represented in (104), than an argument of see.

(104a) John saw Mary after Bill left
(104b) (see after Bill left) (John, Mary)

Further Considerations

In this paper, I have argued that VP-structures binary branch and that VP-adjuncts are the most proximate arguments of V at LF. These conclusions raise some interesting questions about the relationship between the levels of representation posited in GB and some of the principles of grammar hypothesized in GB (in particular Case Theory, Th-Criterion, and the Projection Principle). For one, what needs to be explained is why VP-adjuncts are discontinuous with the verb at S-structure when they are continuous with the verb at LF. Now there seems to be an answer to this question. The reason for this S-structure discontinuity follows in a straightforward way from Case Theory within the GB-framework. According to Case Theory, structural case is assigned at S-structure. Further, Case is only assigned under conditions of adjacency. For case assignment of the direct object within a VP, the above conditions require the object to be adjacent to its case assigner (the verb) at S-structure. It is, therefore, the case that the verb and its "logical" sister (the adjunct) cannot be sisters at S-structure or else the assignment of structural Case of the object will be prohibited.

Although we can suggest an answer to problem that my analysis raises for Case Theory, there are some questions that arise that cannot be resolved so easily. These questions have to do with the D-structure position of VP-adjuncts. Are the adjuncts D-structure sisters of the verb? If so, doesn't that configuration interfere with th-marking? (Relatedly, can X'-elements, as well as X^0-elements, th-mark complements--as N' may do with its arguments when N^0 is modified by an adjective?) If not, what is the mechanism through which an adjunct comes to be the "logical" sister of a verb? Such questions, although very interesting, are however beyond the scope of this paper and

must await empirical investigation.

NOTES

1 The Empty Category Principle (ECP) states that:

(I) An empty category must be properly governed.

There several definitions of proper government (see Aoun and Sportiche (1982) and Chomsky (1982, 1986). May's definition of proper government, although never stated, seems to be a notion built upon local antecedent government, where an empty category cannot be separated from its antecedent by another possible binder.

2 An A'-operator is informally defined as an operator that has moved to a non-argument position.

3 Chomsky (1986) argues that there is a binary relationship between an X^0 category and its complement and between an X^1 category and its specifier. However, he allows the internal structure of the complement and of the specifier to be nonbinary. My analysis argues that all constituent structure is binary.

4 Another LF-representation is possible for (21).

(I) [which novel$_2$[John [$_{VP}$ everyone$_3$ [$_{VP}$ read e_3 to e_2]]]

However, since LF (I) cannot predict the ambiguity of (21) because the VP-node prohibits free scopal relations, I do not consider it as an LF for (21).

5 The assumption that it is possible to adjunct element to non-maximal categories is a controversial assumption. Chomsky (1986: 6) claims that elements only adjunct to maximal categories. On the other hand, Fiengo and Higginbotham (1981) argue that adjunction to interrmediate categories is possible.

6 LF (I) can also be derived for (24).

(I) [who$_2$ [John [$_{VP}$ every book$_3$ [$_{VP}$ read e_3 to e_2]]]]

This logical representation both satisfies the PCC and predicts the correct scopal relations for (24). I do not discuss (I) because (I) is irrelevant to the issue under consideration: that May's theory overgenerates logical

representations for (24). I am attempting to develop a theory of logical form that permits all and only the correct logical representations for a sentence.

7 The assumption that the adjunct could be an argument only at LF violates the Projection Principle, which states that all arguments are represented at each syntactic level (D-structure, S-structure, and LF).

8 May (1985) and Chomsky (1986) assume that wh-in-situ elements are adjoined to COMP at LF. May refines this assumption by claiming that only one operator can be adjoined per projection. For (33), this means that the wh-in-situ elements do not adjoin to COMP, which already has the wh-element that has moved at S-structure adjoined, but to the wh-element already in COMP. I will follow May's assumption in all the logical representations that I give for multiple-wh constructions.

9 I am using the Binding Principles developed in Chomsky (1981, 1982). Principles of the Theory of Binding

A. An anaphor is bound in its governing category
B. A pronominal is free in its governing category
C. An R-expression is free

The terms "bound" and "free" are defined as A-bound and A-free respectively; that is, bound means bound by an element in an A-position and free means not bound by an element in an A-position.

10 The claim that VP-adjuncts are more proximate to the verb than V-arguments are is controversial because it goes against the prevalent assumption in GB that such adjuncts are outside the VP. See Chomsky (1986) for arguments in support of the current GB-assumption about adjuncts.

REFERENCES

Aoun, Joseph and Dominique Sportiche. 1982. On the formal theory of government. The Linguistic Review 2:211-31.

Aoun, Joseph. 1985. A Grammar of Anaphora. Cambridge: The Mit Press.

Barwise, Jon and Robin Cooper. 1981. Generalized quantifiers and natural language. Linguistics and Philosophy 4: 159-219.

Chomsky, Noam. 1981. Lectures on Government and Binding. Dordrecht: Foris.

Chomsky, Noam. 1982. Some Concepts and Consequences of the Theory of Government and Binding. Cambridge: The Mit Press.

Chomsky, Noam. 1985. Knowledge of Language: Its Nature, Origin and Use. Praeger: New York.

Chomsky, Noam. 1986. Barriers. Cambridge: The MIT Press.

Gueron, Jacqueline. 1981. Logical operators, complete constituents, and extraction transformations. Levels of Syntactic Representation, ed. by Robert May and Jan Koster. Dordrecht: Foris.

Higginbotham, James. 1983. Logical Form, binding, and nominals. Linguistic Inquiry 14, 395-420.

Hornstein, Norbert. 1984. Logic as Grammar. Cambridge: The MIT Press.

Koster, Jan. 1978. Locality Principles in Syntax. Dordrecht: Foris.

May, Robert. 1977. A Grammar of Quantification. Dissertation, MIT.

May, Robert. 1985. Logical Form. Cambridge: The MIT Press.

Pesetsky, David. 1982. Paths and Categories. Dissertation, MIT.

Reinhart, Tanya. 1983. Anaphora and Semantic Interpretation. London: Croom Helms.

Wilkins, Wendy and Peter Cullicover. 1984. Locality in Linguistic Theory. New York:Academic Press.

Williams, Edwin. 1977. Discourse and Logical Form. Linguistic Inquiry 8: 101-139.

Williams, Edwin. 1980. Predication. Linguistic Inquiry 11: 203-238.

SOCIAL DEIXIS IN SINHALESE:

The Pronoun System

Sunanda Tilakaratne

Abstract: Some aspects of language show a close relationship between social structure and language structure. The pronoun system in spoken Sinhalese, which encodes social relationships among the speech act participants, thus provides a fine example of social deixis. This paper shows how this pronoun system encodes proximity and social distance among the speech act participants and its agreement with the verb system in spoken Sinhalese.

Language can be studied either as a logical system or as a form of social behavior. Language structure has evolved within the social context of the speech community (Labov 1972:183). One aspect of language which depicts close social structure is its set of deictic expressions. Social deixis is especially concerned with certain aspects of "the social situation in which the speech act occurs" Fillmore (1975:76). Social deixis includes the social identities and relations among the participants involved in the speech act.

The present study deals with the pronoun system in spoken Sinhalese, which encodes social structure. Since I did not find any written source on the deictic expressions in Sinhalese, I relied on my intution and consulted other native speakers of Sinhalese in getting this data.

Sinhalese is spoken on the island of Sri Lanka. It belongs to the Indic branch of the Indo-European language family. At present there are about 15 million people who speak this language. The grammar of spoken Sinhalese differs from that of the written language to a great extent. For example, even though the verbs of the written language have case endings, in the spoken language these endings are not used. Similarly, the written and spoken languages have two entirely different pronoun systems. I will concentrate on the pronominal forms of the spoken language in this paper, and compare them with the formal written forms when necessary for clarification.

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The formal grammar of written Sinhalese as it is presently taught in schools, universities or any other educational institutions in Sri Lanka shows a three way distinction in the pronoun system similar to that of English. The following table illustrates these forms.

Table 1. The Pronoun System of the Written Formal Grammar of Sinhalese

		Masc.		Feminine	
		Sing.	Plural	Sing.	Plural
1st Person	Subject	mama	api	mama	api
	Object	ma	apa	ma	apa
2nd Person	Subject	oba	obala	oba	obala
	Object	oba	obala	oba	obala
3rd Person	Subject	ohu	owuhu	æja	owuhu
	Object	he:	owun	æ:	owun

Table 1 shows the formal written Sinhalese pronouns. When we further examine the system, we find that Sinhalese, unlike well known languages such as English, French or German, shows a three-way distinction in the third person pronouns based on proximity between the speaker and the referent (see Table 2). The first division of the third person pronouns has the meaning `this person' (category a in Table 2). The proximity between the speaker and the referent is similar to that of the English demonstrative pronoun `this'.

meya liyuma liyay
this person letter will write.
This person will write the letter.

The second type, which has the meaning `that person' (category b in Table 2), is used when the referent is a bystander (i.e., close to the speaker and hearer) and the proximity between the speaker and the referent is similar to the English demonstrative pronoun `that'.

araya liyuma liyay
that person letter will write
That person will write the letter.

Table 2. Formal Written Pronouns and Their Spoken Equivalents Used among Socially Equivalent People

		Formal written Sinhalese		Spoken Sinhalese	
		Sing.	Plu.	Sing.	Plu.
First person (male/female)	Subject	mama	api	man	api
	Object	ma	api	man	api
Second person (male/female)	Subject	oba	obala	oya	oyala
	Object	oba	oba	oya	oyala (oyagollo)
Third Person	(a) Proximal				
	Subject				
	male	mohu	mowuhu	meya	eyala
	female	ma ya	mowuhu	meya	eyala
	Object				
	male	mohu	mowun	meya	meyala
	female	mæ:	mowun	meya	meyala (me:gollo)
Person	(b) distal				
	Subject				
	male	ohu	owuhu	araya	arayala
	female	a ja	owuhu	araya	arayala (aragollo)
	Object				
	male	ohu	owun	araja	arajala
	female	æja	owun	araja	arajala (aragollo)
	(c) remote				
	Subject				
	male	ohu	owuhu	eya	eyala
	female	æya	owuhu	eya	eyala
	Object				
	male	ohu	owun	eya	eyala
	female	æja	owun	eya	eyala (e:gollo)

The third is used when the referent is in the vicinity (over there) of the speaker and the hearer or at another locale (similar in usage to the English third pronoun `he') (category c in Table 2).

eya liyuma liyay
that person letter will write
That person (he) will write the letter.

Table two presents the forms that are used in formal written Sinhalese and also the spoken forms that are used by educated people.

This pronominal system is complicated by variations based on the social relationship between the speaker and the addressee. It is difficult to distinguish one social class from another. Trudgill (1978) states:

> Social classes are not clearly defined or labelled entities but simply aggregates of people with similar social and economic characteristics; and social mobility- movement up or down the social hierarchy- is perfectly possible.

As Trudgill states, the three social classes (upper, middle and lower) are distinguished in this paper. Education, social status and economic status play a major role in identifying social classes in Sri Lanka, although it is not possible to indicate clear boundaries between classes. In general, this paper refers to upper, middle and lower classes in the following manner. The upper class usually consists of national political leaders and other politically and/or socially recognized people of the country. The lower class usually consists of socially inferior, poor people with minimum education (at most primary school education). The people belonging in between these two categories are considered as the middle class. The pronominal system in Sinhalese shows that there is a close inter-relationship between this social stratification and the language structure.

The pronominal system in Sinhalese can be considered as speaker-centered, since the 1st person pronouns mama `I' and api `we', do not vary according to social variables such as speaker-addressee relationship, situation or age. For example, the following utterances

could be used by any speaker irrespective of the social variables, situation, or age.

mama liyuma liyannam
I letter will write
I will write the letter.

api liyum liyannam
we letters will write
We will write the letters.

The second and the third person pronouns, on the other hand, vary according to the social status and the social relationship between the speaker-addressee and the speaker-hearer, as I will exemplify later in this paper.

The Second Person Pronoun:

The second person pronoun oya is used when the addressee is of equal status with the speaker.

oya liyuma liyanawada?
you letter write?
Would you write the letter?

Also, when the speaker and addressee both belong to the high or middle social classes this term may be used. Its plural counterpart is oyala. Although this pronoun does not show the gender distinction, it is used more by females than by males. This pronoun is used more in informal situations. In formal situations such as job interviews or meetings with government officers, the name of the addressee may be used instead.

When the addressee belongs to the low social class or when both the speaker and addressee belong to the low social class, the pronoun umba will be used. The plural counterpart is umbala,

umba liyuma liyapan
you letter write
You write the letter.

The middle social class or the upper social class may not use this pronoun among themselves. Also in formal situations such as interviews this pronoun is not used. When people climb up the social ladder from low to middle class, they usually cease to use this pronoun.

This pronoun is not affected by variation in age or gender distinction.

The pronoun tho has the same speech act participants as the pronoun umba; the difference is that tho is used when the speaker is in an angry mood or not well disposed towards the addressee. The feminine form of the pronoun is thi:. Both masculine and feminine pronouns have the same plural counterpart thopi.

tho gedara giya
you home went
You went home.

thopi gedara giya
you (plural) home went
You went home.

Table 3. The Second Person Pronoun and the Social Variables

	Masculine		Feminine	
	Sing.	Plu.	Sing.	Plu.
1.Formal written	oba	obala	oba	obala
2.socially equal	oya	oyala	oya	oyala
3.socially inferior	umba/ tho	umbala/ thopi	umba/ thi	umbala/ thopi
4.socially upper	obatuma	obatumanla	obatumi	obatumila

2. This line indicates the spoken forms used among the middle class and higher class people when talking to each other.
3. This line indicates the spoken forms used among the lower social class and used by middle class or upper class people when addressing the socially lower class.
4. This line indicates the spoken forms used by socially lower class people when addressing socially upper class people.

The second person singular pronoun obatuma is used when the addressee belongs to the upper social class, while the speaker is of the lower class. This term may be heard when the addressee is a political leader or a high government official. Obatumanla is the masculine plural form of this pronoun. Regardless of the formality of the situation, this pronoun may be used. The feminine forms are obatumi (singular), and obatumila (plural).

obatuma gedara giyada?
you home went?
Did you go home?

obatumanla gedara giyada?
you (plural) home went?
Did you go home?

The Third Person Pronoun:

a) The Referent is Close to the Speaker

Table 4 shows the relationships between the social variables of the third person pronouns. The forms of this category vary according to the social status of the speech act participants. When both the speaker and the referent belong to the middle class or upper class, the pronoun meya is used. Other social variables such as age, or gender may not affect this pronoun, but the formality of the situation is a variable. This form is used in very informal situations. In formal situations the name of the referent (full name or the first name depending on the degree of formality of the situation) is used instead of the pronoun.

meya mata liyuma dunna
this person letter gave
This person gave me the letter.

The forms mu: or me:ka (these two forms are in free variation) are used when the referent belongs to a social class lower than the speaker, or when both the speaker and the referent belong to the socially lower class. Unlike the pronouns that are used by the middle class or the upper class, this pronoun shows a gender distinction. The pronoun me:ki is used when the referent is a female. The plural form of both masculine and feminine pronouns is mun. These pronouns may not be used

in formal situations, and variation in age does not affect their use.

mu: mata liyuma dunna
this person me letter gave
This person gave me the letter.

mun mata liyum dunna
these persons me letters gave
These persons gave me letters.

Table 4.
The Third Person Pronoun and the Social Variables When the Referent is Close to the Speaker

	Masculine		Feminine	
	Sing.	Plu.	Sing.	Plu.
1.formal written	mohu	mowuhu	mæ2ya	mowuhu
2.socially equal	meya	meyala	meya	meyala
3.socially inferior	me:ka/ mu:	me:kala/ mun	me:ki	me:kila mun
4.socially upper, adults	metuma	metumanla	metumi	metumiyanla

2. This line indicates the spoken forms used among the middle class and upper class people when talking to each other referring to the same class of individuals.
3. This line indicates the spoken forms used among the lower social groups and used by middle class or upper class people when referring to the socially lower class.
4. This line indicates the spoken forms used by socially lower class people when referring to the socially upper class people.

If the referent is a male member of an upper social class the term metuma is used. The feminine form of this pronoun is metumi and the plural forms are metumanla (masculine) and metumianla (feminine). The formality of the situation may not affect the usage of these pronouns but these forms are used mainly among adults.

metuma liyuma liyay
this person letter write
(masculine)
This person will write the letter.

metumiya liyuma liyay
this person letter write
(feminine)
This person will write the letter.

b) The Referent is a Bystander

When the referent is a bystander and when both the referent and the speaker belong to the same (upper or middle) social class, the pronoun araya is used. Age and gender do not act as variables for this pronoun. But this pronoun is more likely to be used in informal situations than in formal situations.

araya liyuma liyay
that person letter write
That person will write the letter.

When the referent is a bystander and both the referent and the speaker belong to the lower social class or when the referent alone belongs to a lower social class the pronouns araka (singular, masculine), or araki (singular, feminine), are used. The plural form of both masculine and feminine is arun.

araka liyuma liyay
that person letter write
(masculine)
That person will write the letter.

araki liyuma liyay
that person letter write
(feminine)
That person will write the letter.

Table 5.
The Third Person Pronoun and the Social Variables When the Referent is a Bystander

	Masculine		Feminine	
	Sing.	Plu.	Sing.	Plu.
1. formal written	ohu	owuhu	æ2ya	owuhu
2. socially equal	araya	arayala	araya	arayala
3. socially inferior	araka/ aru:	arakala/ arun	araki	arakila/ arun
4. socially superior	etuma	etumanla	etumiya	etumiyanla

2. This line indicates the spoken forms used among the middle class and upper class people when talking to each other, referring to the same class individual.
3. This line indicates the spoken forms used among the lower social groups, and used by middle class or upper class people when referring to the socially lower class.
4. This line indicates the spoken forms used by socially lower class people when referring to the socially upper class people.

The forms etuma (masculine, singular) or etumi (feminine, singular) are used when the referent belongs to the upper class. The formality of the situation does not affect these pronouns. Generally the pronoun etuma has the meaning 'that respectable person'. These two pronouns are also used in the same way as the English third person pronoun 'he' or 'she' when the referent is not necessarily present in the speech act situation.

etuma liyuma liyay
that person letter write
(masculine)
That person will write the letter.

etumiya liyuma liyay
that person letter write
(feminine)
That person will write the letter.

c) The Referent is in the Vicinity or Elsewhere:

When the referent is in the vicinity of the speech act setting or in another locale and when both the referent and the speaker belong to the same social class (either upper or middle social class) the pronoun eya is used. Age and gender do not act as variables of this pronoun and it is likely to be used in more informal situations.

eya liyuma liyay
he letter write
He will write the letter.

Table 6.
The Third Person Pronoun and the Social Variables when the Referent is in the Vicinity or Elsewhere

	Masculine		Feminine	
	Sing.	Plu.	Sing.	Plu.
1. formal written	ohu	owuhu	eya	owuhu
2. socially equal spoken	eya	eyala	eya	eyala
3. socially inferior spoken	e:ka/ u:	e:kala/ un	e:ki	e:kila/ un
4. socially upper spoken	etuma	etumanla	etumi	etumiyanla

2. This line indicates the spoken forms used among the middle class and upper class people when talking to each other and referring to the individuals of the same class.
3. This line indicates the spoken forms used among the lower social groups and used by middle class or upper class people when referring to the socially lower class.
4. This line indicates the spoken forms used by socially lower class people when referring to the socially upper class people.

When the referent alone or both the referent and the speaker belong to the lower social class, the pronoun e:ka (plural e:kala) or u: (plural un) is used. Although these two pronouns seem to be in free variation, the forms u: and un are more frequently used than e:ka and e:kala. The feminine forms are e:ki (singular) and e:kila or un (plural). As in the case of the masculine, un is more frequent than e:kila. These pronouns do not differ according to the age of the speaker.

e:ka liyuma liyay
he letter write
He will write the letter.

e:ki liyuma liyay
she letter write
She will write the letter.

The pronouns etuma and etumi:, which are used when the referent is a bystander, are also used when the addressee belongs to the upper class.

etuma liyuma liyay
he letter write
He will write the letter.

etumiya liyuma liyay
she letter write
She will write the letter.

The pronoun system and the verb system

The verb forms also vary according to the above mentioned variations of the pronouns; each pronoun can be used only with its distinctive verb form. With the pronouns that would be used in addressing the upper and middle social class people, the same verb forms are usually used.

When addressing the upper class:

obatuma enda
you come
You come.

obatuma enawada?
you come?
Could you come?

Table.7 The Verb System

	come	go
1.socially equal	enda/enna	yanda/yanna
2.polite forms for socially equal people	aawanam endako enawada?	(giyanam)? yandako yanawada?
3.socially inferior	waren	palayan
4.upper	enawada?	yanawada?

1. Lines 1 and 2 indicate the verb forms used among the middle class and upper class people when talking to each other.

2. This line indicates the spoken forms used among the lower social groups, and used by middle class or upper class people when addressing the socially lower class.

3. This line indicates the verb forms used by middle class or lower class people when addressing the socially upper class people.

Verb forms among the upper and middle classes:

oya enda
you come
You come.

oya enawada?
you come.
Could you come?

Both verbs have the meaning 'come', but the second question form of the verb enawada is commonly used, since it is the more polite form.

If the verb form waren is used with the pronouns obatuma, or oya, that utterance would be socially unacceptable since the verb form does not 'socially fit' the pronouns. Also, with the pronoun umba only the verb forms waren 'come' or palayan 'go' can be used. Therefore, the following utterances can be regarded as socially unacceptable, but could be made socially acceptable in one of the ways following each example.

1. *obatuma waren
   you come

   a. obatuma enawada?
      you come

   b. umba waren
      you come

2. *obatuma genen
   you bring

   a. obatuma ge:nna
      you bring

   b. umba genen
      you bring

Similarly,

3. *oya waren
   you come

   a. oya enna
      you come

   b. umba waren
      you come

4. *umba enda
   you come

   a. umba waren
      you come

   b. oya enda
      obatuma enda
      you come

5. *umba ge:nda
you bring

a. umba genen
you bring

b. oya ge:nda
you bring

There are many other verb forms that a speaker and an addressee may use in face-to-face interaction that have the similar two-way distinction: (1) a. those used among middle or upper class people, b. those used by middle or lower class people to address the upper social class c. those used by upper or lower class people to address the middle class people (Table 8 line 1), (2) the verb forms used by upper or middle class people when addressing lower class people or among the people belonging to the lower social class (Table 8 line 2). One important fact that should be mentioned here is that the second category of verbs are presently used more among the lower social class rather than between two different social classes. Some of the verbs are illustrated in table 8.

Table 8

	(1)	(2)
eat	kanna (eat) kanawada? (could you eat?)	ka:pan (eat)
drink	bonna (drink) bonawada? (could you drink?)	bi:pan (drink)
take	ganna (take) gannawada? (could you take?)	ganin (take)
bring	ge:nna (bring) ge:nawada? (could you bring?)	genen (bring)

write	liyanna (write) liyanawada? (could you write?)	liyapan
read	kiyawanna (read) kiyawanawada? (could you read?)	kiyawapan (read)
sleep	nidaganna (sleep) nidagannawada? (could you sleep?)	nidaganin (sleep)
think	hittanna (think) hitanawada? (could you think?)	hitapan (think)

Summary

The first person pronouns in Sinhalese do not differ according to social usage or any other variable. The second person pronouns differ according to social class differences. The singular and masculine forms of these can be illustrated as follows.

1. oya - Used by middle class and upper class people in addressing each other.
2. umba - a. Used by lower class people in addressing each other.
   b. Used by upper and middle class people in addressing lower class people.
3. obatuma- Used by middle class and lower class people in addressing upper class people.

Third person pronouns may vary according to the proximity between the speaker and the referent. The variations of the masculine, singular forms could be summarized as follows.

	proximal	distal	remote
1.	meya	araya	eya
2.	mu:	aru:	u:
3.	metuma	etuma	etuma

1. Forms used by middle class and upper class people when referring to the individuals of the same social class.
2. Forms used by upper and middle class people when referring to lower class people.
3. Forms used by middle class and lower class people when referring to upper class people.

A similar distinction can also be seen in the use of verbs. For example, upper and middle class people when addressing each other would use the forms yanna/yanawada? (go/can you go?). Same forms are used by those of lower class when addressing those of a class above them. However, people of upper or middle classes when addressing those of the lower class would use the forms waren (come) or palayan (go). Also, these forms are used often among the lower class people.

The pronoun system as well as verbs in spoken Sinhalese shows a close relationship between the social structure and the language structure.

REFERENCES

Fillmore, Charles J. 1975. Santa Cruz Lectures on Deixis Mimeo, Indiana University Linguistics Club.

Labov, William. 1972. Sociolinguistic Patterns. Pennsylvania Press, Inc.

Trudgill, Peter. 1978. Sociolinguistics. Penguin Books Ltd, Harmondsworth, Middlesex, England.

THE BEHAVIOR OF NON-TERMS IN SHABA SWAHILI

A RELATIONAL APPROACH

Hussein Obeidat and Mwamba Kapanga

Abstract: This paper is an attempt to examine the behavior of Non-Terms in Shaba Swahili within the framework of Relational Grammar. The behavior of Non-Terms will be discussed with reference to several syntactic processes such as Passivization, Relativization, Raising, and the interaction of these processes in simple as well as complex sentences. We will argue that (1) Non-Terms in Swahili can be relativized and passivized; (2) Non-Terms, like Terms, can undergo direct Passivization and Relativization. That is they can be promoted to subject position without undergoing locative'instrumental to 3 to 2 to 1 advancement; (3) Non-Terms can relativize intersentencially in complex passive and relative clauses and still control agreement in the embedded clause; (4) Passivization and Relativization of Non-Terms move the whole locative/ instrumental phrase; and (5) a resumptive pronoun is obligatorily retained only in cases that involve Relativization of instruments.

Introduction

The theory of RG articulated in Johnson 1974; Postal 1977; Postal and Perlmutter 1977; 1983; Frantz 1981, among others, assumes that syntactic rules such as Passivization, Relativization and Raising are limited only to Terms; i.e., subject of, direct object of and indirect object of. Non-Terms or obliques such as locatives, instrumentals, temporals, etc. cannot undergo any relation-changing rules. In case one of these Non-terms is promoted, the highest position it can be promoted to is direct object of, and the promotion process must be systematic. With respect to Raising, Postal (1974) proposed that raising should be universally restricted to complement subjects. Seiter (1978) has modified this univerasal to incorporate also the raising of objects of complements and considered this modification to be optional as a language particular phenomenon.

The main objective of this paper is to argúe that in Shaba Swahili Non-Terms behave exactly like Terms. Specifically, it will be demonstrated (1) that Non-Terms can undergo all kinds of relation-changing syntactic rules such as Passivization, Relativization and Raising in different types of structures; (2) that Non-Terms, like Terms, govern agreement on the verb, not only in matrix clauses to which they have been promoted but also in embedded clauses where they have been extracted from; (3) that Non-Terms can be promoted directly to subject position. It will be demonstrated that systematic promotion, that is Non-term to 3

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to 2 to 1 advancement is not possible; and (4) that only in the case of locatives the movement of the whole location phrase is required, whereas, in the case of instrumentals only the NP of the instrumental phrase is promoted leaving the preposition behind attached to an obligatory resumptive pronoun.

The arguments advanced in this paper will lend support to previous analysis of the agglutinative languages (Dalgish 1976; Kamwangamalu 1985; and Kamwangamalu and Obeidat 1985). Before going into the analysis of the data, we will give a brief background of Shaba Swahili.

Swahili was not originally a Zairian language. It is a language transplanted from East Africa, and introduced into Zaire in the 18th and 19th centuries. It was first introduced in the Kivu province from where it spread both north into Haute Zaire and south into Shaba province. Its diffusion into Shaba was mainly due to the trading of ivory, copper, malachite, and slaves during those centuries. Today, it is a language spoken by over four million people in Shaba.

What is peculiar about Shaba Swahili was that it reflects a very complex linguistic situation. That is, its population consisted of people coming from different ethnic and cultural backgrounds. Among them were found the Sanga, Luba, Bemba, Tabwa, Chokwe, Lunda, Lamba, etc. The people spoke languages that were mutually unintelligible. Since they all had to interact among themselves and with traders, there was the need for a language of wider communication. Given the fact that Swahili was the language of the powerful people, namely the traders as well as the most influential local chief, Msiri, it was adopted as the lingua franca. During the colonization of the Belgians, Swahili was maintained as the lingua france in Shaba and was introduced as the language of education. The creation of the mining company in the Shaba province, which required all its workers to learn Swahili, contributed greatly to the expansion of this language.

Despite the rapid and wide spread of Swahili, ethnic languages were still used. That is, Swahili was the language of communication for people of linguistically and culturally different backgrounds whereas local languages were used only among people of the same community. Notwithstanding its role and influence in community, Swahili had to live side by side with local languages. This situation made if fit to undergo the linguistic rule of thumb whereby languages change in contact. Among the languages that influenced Swahili four have played a crucial role because of the number of their speakers in the Shaba community. The are: Luba, Bsemba, Sanga, and Shaba.

Shaba Swahili, like many Bantu languages is a SVO language. A typical sentence in this language requires a subject which is

the only element that controls agreement both on the modifiers as well as the verb of the sentence (for a discussion of word order in Swahili see Kamwangamalu and Obeidat 1985). Before examining the behavior of Non-terms in Shaba Swahili we will briefly discuss the behavior of Terms with respect to Passivization and Relativization.

Passivization

Sentences (1) and (2) show passivization of Terms in both transitive and intransitive (benefactive) clauses, respectively. The object Kitabu in (1)a becomes the superficial subject in (1)b and governs agreement on the verb as indicated by the prefix "ki." The logical subject "mutoto" becomes superficially the object and is put in Chomage.

1 a. Mutoto a- li-angusha kitabu.
Child Ag-TA-drop book
(The child dropped the book)

b. Kitabu ki-li-angush-w -a kuko mutota.
book Ag-TA-drop -pass-FV by child.
(The book was dropped by the child)

2 a. Mama a-li-pikia batoto chakula.
mother Ag-Ta-cook children food
(mother cooked food for the children)

b. Chakula ki-li-piki- wa batoto kuko mama.
food Ag-TA-cook-pass. children by mother
(The food was cooked for the children by mother)

c. Batoto ba-li-piki- wa chakula kuko mama.
children Ag-TA-cook-pass. food by mother
(The children were cooked food for by mother)

d. *Mama a-li-pikia chakula batoto.

In (2)a the benefactive verb "alipikia" has two objects: "batoto" (children) which is the IO, and "chakula" (food) which is the DO. The ordering in Shaba Swahili, like other Bantu languages is based on the notion of animacy. In (2)b the DO "chakula" is passivized and governs agreement on the verb. In (2)c the IO is passivized and promoted directly to the SU position where it governs agreement. One might argue that the IO has already been promoted to 2 which consequently means that 2 has been demoted to 3. Had this been the case, the DO "chakula" would have been put in Chomage in accordance with the Stratal Uniquiness Law and the Relational Annihilation Law. Thus, sentence (2)b would not be possible and the Term "chakula" would not be able to govern agreement on the verb. However, the data argue against that and indicate that passivization of IO is not a systematic promotion process, but rather that it is one step; i.e., IO to SU directly,

and systematic promotion, on the contrary, results in ungrammatical structure as in (2d).

Relativization

The process of relativization in Shaba Swahili is similar to passivization. The following examples are illustratives:

3 Kaka u-le a-li-nunua kabumbu a-li-kwenda ku masomo
brother Ag-Rm Ag-TA buy ball Ag-TA-go to school)
(The brother who bought the ball went to school)

4 Kitabu ki-le u-li-nunua ki-li-potea
book Ag-RM you-TA-buy Ag-TA-lose
(The book which you bought was lost)

5 Baimbwa ba-le mama a-li-patia chakula ba-li-kufa.
dogs Ag-Rm mother Ag-TA-give food Ag-Ta-die
(dogs which mother gave the food to died)

In (3) we have subject relativization and the relativized subject is "brother." In (4) we have DO relativization and the relativized NP is "kitabu" (book). In (5) the relativized NP is the IO "baimbwa" (dogs). Note that in each of these sentences the relativized NPs govern agreement not only on the verb in the matrix but in the embedded clause as well, as shown by the noun class prefixes on the verbs. Like passivization, IO relativization is a direct process also, that is 3 to 1 without systmatic promotion.

Passivization of Non-Terms

Now we will examine the behavior of Non-Terms, which is the main concern in this paper. We will start with passivization of locatives.

6 a. Mwalimu a-li-panda mauwa mu mashamba
teacher Ag-TA-plant flowers loc. garden
(The teacher planted flowers in the garden)

b. Mu mashamba mu-li-pand- wa mauwa kuko mwalimu.
loc. garden Ag-TA-plant-pas.flowers by teacher
(In the garden were planted flowers by teacher)

c. *mashamba mu-li-pand- wa mauwa mu(mo) kuko mwalimu
garden Ag-TA-plant-pas.flowers loc(RP) by teacher

d. *Mwalimu a-li-panda mu mashamba mauwa.

In (6)a the locative phrase "Mu mashamba" (in the garden) is promoted to the SU position in (6)b and governs agreement on the verb as indicated by the locative prefix "mu-". The logical

subject "mwalimu" became the object of the preposition "kuko" (by). Like Terms, locatives are passivized directly by promoting the whole locative phrase to the SU position. Any attempt to promote the locative to DO before passive, which is assumed by RG, will result in ungrammatical structures as in (6)d. Promoting the NP of the locative phrase, leaving the locative behind with or without a resumptive pronoun, will result in ungrammatical structures as (6)c.

7 a. Mama a-li-katia batoto nyama na kisu.
mother Ag-TA-cut children meat with knife
(mother cut the meat with the knife)

b. Kisu ki-li-kati-wa batoto nyama na-kio kuki mama
knife Ag-TA-cut-pass children meat with RP by mother
(with the knife was cut the meat
for the children by mother)

c. *Kisu ki-li-kati- wa batoto nyama na kuko mama.

d. *Na kisu ki-li-kati- wa batoto nyama kuko mama.

The instrumental "kisu" (knife) in (7)a is passivized and becomes the SU in (7)b, and it governs agreement on the verb "kilikatwa" as indicated by the prefix "ki-". However, unlike for locatives, Passivization of instrummentals is a direct advancement of the instrumental NP. When this happens, the prepositions "na-" (with) is left behind, and a resumptive pronoun referring to the instrumental NP has to be attached to the prepositions as can be seen in 7(b). The non-realization of a RP in the passivized site results in the ungrammatical sentence (7)cd. (7)d is ungrammatical because it involves a movement of the whole instrumental phrase "Na kisu".

Relativization of Non-Terms
Locatives

The data on Shaba Swahili demonstrates that locatives can not only freely relativize, but also undergo direct relativization. Moreover, whenever a locative relativizes into the subject position, it governs agreement on the verb.

8 a. Mama a-li-pikia batoto chakula mu pishi.
mother Ag-TA-cook children food loc.kitchen
(mother cooked food for the children in the kitchen).

b. Mu pishi mu-le mama a-li-pikia chakula mu-ko batoto
loc.kikchen Ag-RM mother Ag-TA-cook food Ag-be children
(In the kitchen where mother cooked food are children)

c. *Mama a-li-pikia batoto mu pishi chakula.

d. *Mu pishi mu-le mama a-li-pikia chakula ki-ku batoto.

The sentences in (8) are illustrative examples. The locative phrase "mu pishi" (in kitchen) has been relativized and promoted directly into the SU posision in (8)b. Note that it also governs agreement not only on the RM in the matrix clause, but also on the verb in the embedded clause "mu-ko" (be) from where it has been extracted. Any attempt to systematically promote the locative into DO position will result in ungrammatical structure as in (8)c. Sentence (8)b is ungrammatical because the agreement on the verb in the embeded clause "ki-ko" (be) is not governed by the locative NP, but rather by the preceding NP.

Instrumentals

The behavior of instrumentals in Shaba Swahili not different than that of terms and locatives. Instrumentals can undergo direct relativization and, like terms and locatives Instrumentals can undergo direct relativization and, like terms and locatives, they govern agreement on the verb.

9 a. Dada a-li-safisha manguo ya batoto na sabuni
sister Ag-TA-wash clothes of chilren with soap
(Sister washed the children clothes with soap)

b. Sabuni i-le dada a-li-safisha manguo ya batoto na -yo i-ko wapi?
soap Ag-RM sister Ag-TA wash clothes of childr. with-RP Ag-be Wh.?
(The soap with which sister washed the children's clothes is where?)

In (9)a, the instrumental NP "sabuni" (soap) has been relativized and promoted to SU position as it is shown in (9)b. Note that, similar to passivization, relativization of instrumentals moves only the instrumental NP and leaves the preposition behind with an obligatory RP in the relativized site from where it has been promoted. Like locatives, instrumentals also govern agreement on the relative marker in the higher clause as well as the verb "i-ko" (be) in the embedded clause as indicated by the presence of the prefix "i."

Interaction of Passive and Relativization Rules

In this section we will discuss the behavior of non-terms in complex structures, where more than one relation-changing rule is operative. We will demonstrate that non-terms which are inaccessible to relation-changing rules according the theory of RG can in fact undergo direct promotion to subject positions intersententially and still govern agreement.

10 a. Mu nyumba mu-le batoto be-ko ba-nacheza
loc. house Ag RM children Ag-be Ag-play
mu-lipik-wa Chakula kuko Juma
Ag cook-Pass food by Juma

(In the house where the children were playing was cooked food by Juma)

b. Batoto be-ko ba-nacheza mu nyumba
children Ag be Ag-play loc. house
(the children are playing in the house)

c. Juma a-li-pikia chakula mu nyumba
Juma Ag-TA-cook food loc. house
(Juma cooked food in the house)

11 a. Kisu ki-le ki-li-kat-wa nyama na-kio kuko dada
knife Ag-RM Ag-TA-cut-pass meat with-RP by sister
ki-li-kat-wa ndizi na-kio kuko mutoto
Ag-TA-cut-Pass banana with-Ag by child
(the knife with which the meat was cut by sister was cut the banana with by the child)

b. Kisu ki-le dada a-li-kata nyama na-kio ki-li-kat-wa
knife Ag-RM sister Ag-TA-cut meat with-RP Ag-TA-cut-
ki-li-kat-wa ndizi na-kio kuko mutoto
Ag-TA-cut-Pass banana with-RP by child

(10)a comprises two clauses: (10)b and (10)c. In (10)a we have the locative NP "mu nyumba" (in house) promoted to subject position twice, first, in the embedded clause "mu nyumba muli-pikwa chakula kuko J", which is derived from (10)c. This is indicated by the locative prefix "mu-" on the verb "mu-li-pikwa" (to cook). Then the same locative NP has been promoted to the SU position in the matrix clause by a relativization rule and governs agreement on the relative marker as well.

In (11)a, we have the instrumental NP "kisu" (knife) promoted, also, to the SU position after it has been passivized in the embedded clause, then it undergoes another passive role where it becomes the SU of the matrix clause, leaving a RP attached to the preposition behind. Then the rule of relativization is applied. The instrumental NP in (11)a governs agreement in the sentence all the way through: on the RM "ki-le", the verb of the matrix clause "kilikatwa" and the verb of the embedded clause "kilikatwa".

In (11)b, the same instrumental "kisu" has been extracted from its position in the embedded instrumental phrase "na kisu" and promoted to the SU position in the same clause where it governs agreement on the verb "kilikatwa". Then the same instrumental NP is relativized into the SU position directly where it is shown to govern agreement on the RM "ki-le." After the application of the relativization rule in the matrix clause in (11)b, the instrumental cannot undergo passivization.

To sum up the discussion, we have demonstrated that the behavior of non-terms is not restricted to relation-changing rules in simple structures, but also in the embedding to two clauses or more. We have shown that non-terms can be promoted directly into inaccessable positions more than once in complex structures with more than one syntactic rule involved and still govern agreement on verbs exactly like terms.

Instrumental Raising

In this section we argue against the language universal proposed in Postal (1977) implicit in most of the work on raising. We will also demonstrate that the modification proposed by Seiter (1978) cannot account for the facts present in Shaba Swahili as well as other agglutinative languages.

12 a. Ni-na-zani (kwamba) Juma a-na amini kwamba
I-TA-think (that) Juma Ag-TA-believe that
Mariamu a-li-kata salami na kisu
Mary Ag-TA-cut salami with knife
(I think that Juma believes that Mary cut salami with a knife)

b. Kisu ki-le ni-na-zani (kwamba) Juma a-na-amini
knife Ag-RM-I-TA-think that Juma Ag-TA-believes
kwamba Mariamu a-li-kata salami na-kio ki-li-anguka
Mary Ag-TA-cut salami with-RP Ag-TA-fall
mu musalani
in sink
(the knife which I think that Juma believes that Mary cut salami with fell in the sink)

c. Kisu ki-le ni-na zani kwamba Juma a-na-amini
knife Ag-RM I-TA-think that Juma Ag-TA-believes
kwamba Mariamu a-li-kata nyama na-kio ki-li-anguka
that Mary Ag-TA-cut meat with-RP Ag-TA-fall
mu musalani
in sink
(the knife that I think that Juma believes was cut the meat with by Mary fell in the sink)

The instrumental NP "kisu" in (12)a has been promoted directly into SU position of the matrix clause in (12)b. Note that (12)b is an embedding of several clauses and the raised instrumental governs agreement on the RM of the matrix as well as the verb in the lowest embedded clause where it has been extracted from. Sentence (12)c shows that it is possible to raise the instrumental NP directly to the SU position in each clause applying relation-changing rules such as passivization. The instrumental NP has been promoted into the SU position in the second higher clause by the application of passive where it is shown to govern agreement on the verb "kilikatwa" (was cut). Then it has been raised again directly to the SU position in the matrix clause. Note the presence of the agreement suffix on the verbs in the clauses to which it has been promoted.

Now one might argue that raising the verbs like "believe" is a version of equi-NP deletion and does not present a real case of raising. To refute such a claim let us consider sentence (13) which involves the use of the verb "seem".

13 a. I- na-onekana sawa batoto ba-li-uwa
it-TA-seem that children Ag-TA-kill
kasha na kisu
antelope with knife
(It seems that the children killed
an antelope with a knife)

b. Kisu ki-na-onekana sawa batoto
knife Ag-TA-seem that children
ba-li-uwa kasha na-kio
Ag-TA-kill antelope with-RP
(with the knife it seems that
the children killed an antelope)

c. Kisu ki-na-onekana sawa ki-li-uwa
knife Ag-TA-seem that Ag-TA-kill
kasha na-kio kuko batoto
antelope with-RP by children
(with the knife it seems was killed
an antelope with by children)

d. Kisu ki-na-onekana sawa ba-li-uwa
kasha na-kio kuko batoto

e. Kisu ki-na-onekana sawa ba-li-uwa
kasha na-kio kuko batoto

f. *kisu a-na-onekana sawa ba-li-uwa kasha
nayo kuko batoto

The instrumental NP "kisu" in (13)a has been raised directly to the SU position, that is, oblique to 1, replacing the dummy (it) and governing agreement on the verb of the matrix clause. In (13)c, the instrumental NP is promoted directly by passivization to the SU position in the embedded clause, then raised to the SU position in the matrix clause. Note that agreement is governed on both verbs in the matrix as well as the embedded clause. (13)d and (13)e are the same sentences, but have different readings. (13)d is ungrammatical because of the wrong agreement on the verb "baliuwa" (to kill). The agreement on the verb is with "children" rather than" the knife", and hence ungrammatical. (13)e is grammatical if the prefix "ba" is not in agreement with "batoto" but rather refers to the impersonal passive "they" and "they" must not be coreferential with "batoto", in which case each of (13)d and (13)e will have different readings. Finally, (13)f is ungrammatical because its agreement is not governed by its subject, "kisu", rather it is governed by "kasha" which is the object.

Conclusions and Implications

We have demonstrated in this paper that in Shaba Swahili Non-Terms behave exactly like Terms. They can be promoted freely

to the highest position on the hierarchy. Their promotion must not be systematic; that is, oblique to 3 to 2 to 1 advancement is possible. Non-Terms also, like Terms, govern agreement on verbs and undergo all types of relation-changing rules such as passivization, relativization, and raising. The problem of agreement, complex as it is in agglutinative languages, in not adequately accounted for in the theory of RG. (For a thorough discussion see Bokamba 1984).

The data analyzed in this paper argue against the Relational Succession Law which states that only Terms can bear grammatical relations to verbs and that no rule can ascend NPs out of constituents that are not SU, Do, or, (less likely) IO. The behavior of Non-Terms in Shaba Swahili also refutes the claim made by Perlmutter and Postal (1983:91) that there can be no advancement or demotion to oblique grammatical relations.

Since the distinction between Terms and Non-Terms is based on the grammatical relations that these elements bear to the verb, and their accessibliity to relation-changing rules, we claim that Non-Terms should be treated like Terms. Thus, universals proposed by the tenants of RG need to be revised to incorporate Non-Terms In the case of Passivization we can modify the Universal to include IOs and obliques as language particular phenomena, and the same for Relativization. In the case of Raising, also, we need to further modify the universal proposed by Seiter (1978) to incorporate obliques as well. Such modification will account for Non-Terms in Shaba Swahili and other languages. However it will not account for a language like Bahasa Malaysian (BM) which presents a very interesting but challenging question to RG. In BM, DO cannot undergo direct relativization. They have to first be promoted by a passive rule before they can relativize, whereas Non-Terms are, on the contrary, accessible to direct relativization (Chiang, 1979). Thus, should we also consider the behavior of some Terms as a language particular phenomenon? If we do, then we are refuting the whole theory of RG.

To avoid that, we propose that universals be stated in a way general "enough to capture all these languages" and their particular phenomena. We can simply say: Passivize any element, Relativize any element, and Raise any element. Rethinking such modifications, we are, in fact, merging into Chomsky's theory of MOVE ALPHA. Assuming this to be true, which in fact it is in Shaba Swahili and other languages such as Tshiluba and Lingala (Kamwangamalu & Obeidat, 1986), we can claim (1) that what is defined as Terms vs. Non-Terms is a language particular phenomenon, i.e., what is considered to be Non-Term in English, for example, is a Term in Shaba Swahili, and (2) consequently, systematic promotion is also a language particular phenomenon and not a language universal.

NOTES

1. We are very grateful to professor E. Bokamba for his helpful and valuable comments on this paper. However, all the weaknesses and mistakes are attributable to us. An earlier version of this paper was presented at the 17th Annual Conference on African Linguistics at Indiana University: Bloomington in March 1986.

2. Shaba Swahili makes use of the demonstrative of non-proximity as a relative marker. That is, -le, which is the invariable stem of the relative marker together with the prefix (which is determined by the head noun) are used as the relative pronoun. If a demonstrative adjective is to be used, it will always precede the head noun whereas the relative pronoun always follows that head noun.

e.g.-Kaka u-le a-li-nunua kabumbu a-li-kwenda ku masomo
brother Ag-RM Ag-RM-buy ball Ag-TA-go to school
(the brother who bought the ball went to school)
-U-le kaka u-le a-li-nunua kabumbu a-li-kwenda ku masomo
Ag-dem brother Ag-RM Ag-TA-buy ball Ag-TA-go to school
(That brother who bought the ball went to school)

2. The verb "kuuwa" (to kill) does not change in passive constructions; that is, Shaba Swahili has a rule that deleted the passive marker "-w-" because it is preceded by another "-w-".

e.g. ku-uwa ---→ kuuwa -----→kuuwa
to kill --------→ to be killed

4. In Shaba Swahili, as is the case in many Bantu languages, agreement is always governed by the subject of the sentence. Both Terms and Non-Terms can be used as subjects, and in this case they have to govern verb agreement. In this language, locatives and instrumentals are the only NonTerms that can be promoted into SU position; when this happens, they will control agreement on the verb.

REFERENCES

Bokamba, E.G. 1975. Relativization in Bantu Languages revisited. Paper presented at the second Annual Conference of the Linguistic Association of Canada and the United States. The University of Toronto, Canada.

_____ 1984. Verbal Agreement as non-cyclic Rule in Bantu. In D.L. Goyvaerts, ed., African Linguistics: Essays in Memory of M.W.K. Semikenke, pp. 9-54. Amsterdam: John Bejamin Pub.

_____ and M. Drame. 1978 Where do Relative Clauses come from? CLS.

Chiang, Kee Yeoh. 1979. Interaction of Rules in Bahasa Malaysia. University of Illinois doctoral dissertation. Urbana, Illinois.

Dalgish, Gerald M. 1976a. Locative NPs; Locative suffixes and grammatical Relations. Proceedings of the Second Meeting of the Berkeley Linguistic Society, pp. 139-148.

_____ 1976b. Passivizing Locatives in Olutsootsoo! Studies in the Linguistic sciences, 6:1.57-68.

Frantz, Donald G. 1981. Grammatical Relations in Universal Grammar. Monograph, The Summer Institute of Linguistics: University of Lethbridge.

Gary, J. and Keenan, 1977. on Collapsing Grammatical Relations in Universal Grammar. In Cole and Sadock, eds., Syntax and Semantics 8: Grammatical Relations. New York.

Johnston, D. 1974. Toward a Theory of Relational Based Grammar. PhD. dissertation, Univesity of Illinois, Urbana. Published by Garland and Publishing Co., New York.

Kamwangamalu, 1985. Passivization in Bantu: Implications for Relational Grammar: In SLS 15.1

_____ and Obeidat H. 1985. Relativization in Bantu: A Relational Approach: In Papers from the 1985 Mid-America Conference KSU.

Kapanga, Mwamba 1985. Lubumashi Swahili Revisited. Paper presented at the 16th Annual Conference on African Linguistics, Yale University, Connecticut.

Keenan, E. 1976. Towards a Universal Definition of Subject. In Linguistics.

Comrie, B. 1977. Noun Phrase Accessability and Universal Grammar. Linguistic Inquiry 8:63-99

Kimenyi, A. 1976. A Relational Grammar of Kinuyarwanda. PhD Dissertation, UCLA

Obeidat, Hussein A. 1984. Relative Clauses in Standard Arabic Revisited. In SLA 14:2:77-97.

Perlmutter, D. 1972. Evidence for Shadow Pronouns in French Relativization. In The Chicago Which Hunt: Papers from the Relative Clause Festival. Peranteau, P.; Levi, J.; and Phares, G.; eds. Chicago Linguistic Society, University of Chicago.

_____ ed/ and Postal, P. 1977. Lectures on Relational Grammar. Summer Linguistic Institute of the LSA. University of Massachusetts, Amherst.

_____ 1980. Relational Grammar. Syntax and Semantics 13:Current Approaches to Syntax. Moravcsik and Wirth, eds.. Academic Press New York.

_____ 1983. Toward a Universal Characterization of Passivization. In Studies in Relational Grammar. Perlmutter, ed., University of Chicago Press.

Postal, P. 1977. Antipassive in French. Linguisticae Investigationes 1:333-74

Seiter, William 1983. Subject-Direct Object Raising. In Perlmutter, ed. (also in Proceedings of the Fourth Annual Meeting of the Berkeley Linguistics Society. Whistler K. et al., eds Berkeley: University of California. 1978.)

ABBREVIATIONS

Ag = Agreement (Prefix)

TA = Tense/Aspect

RM = Relative Marker

Loc = Locative (Prefix)

Pass. = Passive (Suffix)

RP = Resumptive Pronoun